

DETROIT FIRE DEPARTMENT - FIRE INSPECTION REPORT F.M.D.

Business Name CITY OF DETROIT - DEPT OF TRANS Date 4-08-09
 Address 14044 SCHAEFER No. of Floors 1/NB Census Tract 5372
 Occupant DEPT OF TRANS Phone 834-1944 Bldg. Const TYPE II
 Bldg. Owner CITY OF DETROIT Address 1301 E. WARREN Ph. # 8337676

TYPE OF INSPECTION (CHECK ALL THAT APPLY) HEATING: GAS OIL ELECT OTHER FORCE AIR (HVAC)

FIRE **INST**
 IND. COMM. M.D. OTHER

PUBLIC ASSEMBLY
 Cab-A Cab-B Cab-C Cab-D Cab-E

EXITS
 EXITS PROPERLY MARKED
 EXITS ADEQUATE
 EXITS PROPERLY MAINTAINED
 NO. OF EXITS PER FLOOR
2 EXIT

EXITS
 CAPACITY POSTED
 FLOOR LOCATED
 NUMBER EXITS
 SIZES OF EXITS
 LOCATIONS
 EXITS ADEQUATE
 PANIC HARDWARE
 EXIT SIGNS
 EXIT SIGNS ILLUMINATED
 EMERGENCY LIGHTING

BUILDING
 FIRE WALLS
 FIRE SEPARATIONS
 FIRE DOORS
 STAIR DOORS
 STORAGE ROOMS
 HEATING/VENTILATION EQUIP.
 FIRE DAMPERS
 PLENUMS

KITCHEN
 COOKING EQUIPMENT
 HOOD EXTINGUISHING SYS.
 PROPER SEPARATION
 PORTABLE EXTINGUISHERS

FLAMMABLE LIQUIDS
 STORAGE AMOUNTS
 <100g 101-500g 500+
 WITHDRAWN BY PUMP
 SAFETY CANS
 GROUNDED/BONDED
 AGT UST Port. Containers
 PROPERLY IDENTIFIED
 SPRAY BOOTH
 COMPRESSED GASES
 NO. TORCH UNITS N/A
 GAS STORAGE AMOUNTS NONE

OTHER
 DRESSING ROOMS
 POSTED NO SMOKING
 STORAGE ROOMS / AREAS
 HOUSEKEEPING

***(COMPLETE THE FIRE PROTECTION AND FIRE ALARM SYSTEMS SECTIONS FOR ALL REPORTS)**

***FIRE PROTECTION SYSTEMS**
 SPRINKLER SYSTEM
 YES NO WET DRY
 STANDPIPE SYSTEM
 YES NO WET DRY
 MAJOR MINOR
 ADEQUATE SUPPLY
 DFD CONNECTION
 FIRE PUMP (gpm)
 VALVES OPEN & SECURED
 HOOD SYSTEM(S)

REMARKS AND REFERRALS:
Employee DISPATCH STATION
ADMIN OFFICE OF COMPLEX

***FIRE ALARM SYSTEM**
 YES NO
 SYSTEM IN SERVICE
 ADEQUATE INITIATING DEVICES
 24 HR. SUPERVISION
 DFD DIGITAL DIALER
 MAINT. RECORDS UP TO DATE

OTHER
 FIRE EXTINGUISHERS
 EMERGENCY LIGHTING
 HOUSEKEEPING
 ELECTRICAL

NOTICE OF VIOLATION # _____
 SPOKE WITH GREENY KALIKS TITLE BCA
 INSPECTOR LEROY FOSTER TIME 1215-1300

DETROIT FIRE DEPARTMENT
Fire Marshal Division

250 W. Larned Street

Fire Headquarters

Phone: Office (313) 596-2954

Court (313) 596-2973

5372	SUPR.
KES	RE
PERMIT	

Notice of Violations

Date 4/02, 2009

To CITY OF DETROIT - DEPT OF TRNS

1301 E WARREN

Bus. Phone: 833-7676

DETROIT, MI 48207

The following orders are issued for the correction of hazardous conditions found upon inspection of the premises located at

Address 14044 SCHAEFER HWY

Firm Name Coolidge Yard

These orders must be complied with **AT ONCE**:

① PROVIDE APPROVED METAL RECEPTACLE WITH SELF CLOSURE FOR STORAGE OR DISPOSAL OF OIL SOAKED WASTE OR CLOTHES AS PER NFPA 700 SEC. 17.3.8.5 PER AHJ CITY ORD. 26-08

② REMOVE ALL IMPROPER STORAGE ITEMS FROM SITE AS PER AHJ CITY ORD 26-08

14044 SCHAEFER HWY

ISSUED TO
ANGLO POLK

WARNING: Fire or injury resulting from delay or failure to comply with this notice will be attributed to negligence on the part of the responsible party or parties.

By Order of ~~HAROLD L. BERRY~~
Charlie Prickett

Insp. LEROY FOSTER

42384

DETROIT FIRE DEPARTMENT

Fire Marshal Division

250 W. Larned Street
Fire Headquarters

Phone: Office (313) 596-2954
Court (313) 596-2973

5372	SUPR.
Special	D/S
Industrial	

Notice of Violations

Date 11/30, 20 01

To Ken Ong - Maintenance Supervisor

5300 Chrysler Service Dr. Bus. Phone: 313-990-1533

Detroit, MI 48211

The following orders are issued for the correction of hazardous conditions found upon inspection of the premises located at

Address 14044 Schaefer

Firm Name Coolidge Terminal (Dot)

These orders must be complied with **AT ONCE**:

① Have the fire sprinkler system tested immediately and provide this office with the test results upon completion. The sprinkler system must have regular maintenance and testing. The results must be compiled and kept on site. The system riser must be clearly marked and labeled.
As per NFPA 13, 25.

5300 Chrysler Service Dr.

* one week to comply *

- Mailed to Maintenance supervisor -

WARNING: Fire or injury resulting from delay or failure to comply with this notice will be attributed to negligence on the part of the responsible party or parties.

By Order of CARLETON D. SMITH

Insp. J. M. Dean

23654

Location 14044 SCHAEFER

Information CHECK THE COACH BAY OF TERMINAL FOR SPRINKLER PROTECTION. ISSUE VIOLATION FOR CORRECTIVE ACTION(S) IF SYSTEM IS OUT OF SERVICE. ALSO CHECK FOR PERMITS & ISSUE NEW BILLING CONTRACT! KEN ONG DDST # 999-1533 ACCOUNT ~~IF~~ NEEDED
SUBMIT A COPY OF FINDINGS TO THE COURT SECTION/CAPT. WHITE

Made by F.M. (SMITH) Address ---

Received by CAPT. WHITE Date 11/20 1430 HRS. (M) 2001

Phone --- Mail --- Person ✓ Time 1430 HRS. P.M.

Assigned to --- Date --- Time ---

Radio 606 Telephone --- Person ---

Form C of D-58-CO (Rev. 5-99)

INVESTIGATIVE REPORT

Business Name Coolidge Terminal Type Occupancy Industrial
Stories 2+UB Construction Masonary Person Contacted & Title Arthur Davis-District SRV
Owner City of Detroit Address 5300 Chrysler dr. Det, MI 48211
Occupant City of Detroit Address 5300 Chrysler dr. Det, MI 48211

Details of Investigation Upon Arriving I made contact with Arthur Davis-District Supervisor, Ken Ong - Building Maintenance. After speaking with both on the phone, Mr Raymond Chermult from Bldg facilities arrived and accompanied me during the inspection. The Alarm system is in working order and recently updated. A violation was issued for testing the sprinkler system, compiling and keeping the records on site. No testing was conducted due to poor condition of inspectors test valve and gauges seem to be seized a follow-up will be needed

23654 Issued New billings

Date of Investigation 11/30/01 Time 1400

Signed [Signature] Inspector

DATE ENTERED INTO DATABASE

7-17-03

ENVIRONMENTAL QUALITY - REMEDIATION & REDEVELOPMENT DIVISION
9-7926, Phone 517-373-9837, Fax 517-373-2637, E-mail DEQ-STD-TANKS@michigan.gov

STAFF INITIALS:

PB

**LEAKING UNDERGROUND STORAGE TANK
SUPPLEMENTAL REPORT COVER SHEET**

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Quarterly Free Product Report

FACILITY NAME: Detroit Department of Transportation

FACILITY ID NUMBER: 00013464

STREET ADDRESS: 14044 Schaefer Hwy

CITY: Detroit

STATE: MI

ZIP CODE: 48227

COUNTY: Wayne

DATE(S) RELEASE(S) DISCOVERED: 1. 12/20/99, 2. 12/20/99,
3. 12/30/99, and 4. 1/25/00

CONFIRMED RELEASE NUMBER(S): 1. C-1332-99,
2. C-1333-99, 3. C-1388-99, and 4. C-88-00

O/O NAME: City of Detroit

O/O STREET ADDRESS: 5300 Chrysler Service Drive

STATE: MI

ZIP CODE: 48211

CONTACT PERSON: Ken Ong

PHONE NUMBER: 313.833.3000

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel

2. Free product present:

a. Currently? YES NO

If YES, total gallons recovered since last report: 1.19

b. Previously? YES NO

If YES, total gallons recovered to date: 1.19

3. Have vapors been identified in any confined spaces (basement, sewers)? YES NO

4. Estimated depth to groundwater: 4 feet

Estimated groundwater flow direction: radial

5. Estimated distance and direction from point of release to nearest:

a. Private well: > 1/2 Mile

b. Municipal well: > 1/2 Mile

c. Surface water/wetland: Detroit River, > 1Mile South

6. Since last report: a. cubic yards of soil remediated: 1,520

b. gallons of groundwater remediated: 0

7. Totals to date: a. cubic yards of soil remediated: 6,260

b. gallons of groundwater remediated: 2,800

8. Michigan RBCA Site Classification (1-4): 1

9. Has contamination migrated off-site above Tier 1 Residential RBSLs YES NO

If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 YES NO

10. MTBE

Has MTBE been detected in any groundwater sample?

YES NO

Maximum MTBE concentration found in groundwater

39 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD)

on July 14, 2003 (Date submitted REQUIRED)

Michael K. Jordan

7/14/03
Date

CP Original Signature - (REQUIRED)

Carolyn L. Paplin

PRINT QC PROJECT MANAGER'S NAME

Michael K. Jordan
PRINT CP's Name

The Traverse Group, Inc.
NAME OF CONSULTING FIRM

CP ID: 895

QC ID: Z00179

ADDRESS 400 Monroe, Ste. 410, Detroit, MI 48226

PHONE: (313) 237-7777 FAX: (313) 237-2222

Rec'd 7-17-03
and



FREE PRODUCT RECOVERY STATUS REPORT

Authorized by Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451).

INSTRUCTIONS: Use the checklist below to ensure that all required information is provided in the Quarterly Free Product Recovery Status Report and submit WITH THE SUPPLEMENTAL REPORT COVER SHEET (EQP3849) to the appropriate Remediation & Redevelopment Division (RRD) district office. See form eqp4410 for a complete list of RRD district offices. Include this checklist as a table of contents. Each page of the report should be consecutively numbered. The location column should be completed with the appropriate page number for each item. Refer to Storage Tank Division Operational Memorandum No. 7 for further instructions. The reporting schedule may be altered at the discretion of the DEQ project manager based on site conditions.	FACILITY ID NUMBER: <div style="text-align: center;">00013464</div> <hr/> SITE NAME: <div style="text-align: center;">Detroit Department of Transportation</div> <hr/> COUNTY: <div style="text-align: center;">Wayne</div>
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Section	Table of Contents	Page
1.0	<u>ACTIVITIES COMPLETED</u> Section 21307(2) and (3)(b),(c) A. Describe response activities completed to address free product.	1
2.0	<u>EXPOSURE PATHWAY EVALUATION</u> Section 21307(2)(a),(e) and (3)(c) A. Identify and describe complete exposure pathways related to the free product. B. Provide a scaled site map, which shows the extent of free product including the utility corridors, buildings with or without basements, private wells, and sensitive habitat/surface water.	2 1, Figure 1
3.0	<u>DATA TREND ANALYSIS</u> Section 21307(2)(c)(i),(ii) and (3)(c) A. Provide a data summary table for all wells that contain free product. The table should include monitoring point location, date sampled, depth to water, free product thickness, and quantity of free product removed. B. Provide graphs of static water elevations of a well near the free product plume versus free product apparent thickness compared over time. These graphs should be provided for all monitoring wells that have shown free product. C. Provide graphs of static water elevations versus groundwater concentration (e.g., Benzene, MTBE, and/or total BTEX) in select downgradient monitoring wells compared over time.	2, Table 1 2, Graph 1 NA
4.0	<u>FEASIBILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM</u> Section 21307(2)(c)(i),(ii) and (3)(c), and 21308a(1)(b)(xviii) A. Provide initial and any subsequent bail-down test recovery data, analysis of which will determine the frequency of recovery. Refer to the references in Storage Tank Division Operational Memorandum No. 7 for sample calculations. B. Attach a schematic drawing of the free product recovery system.	2, Graph 2 2
5.0	<u>PERMITTING AND WASTE DISPOSAL TRACKING</u> A. Provide copies of manifests or trip logs of liquid industrial waste or recycling per Section 21307(2)(c)(iii) and (3)(c), and 21308a(1)(b)(xvii)(H). B. Provide the air quality sampling results and calculations to meet Rule 290 of the Air Pollution Control Rules promulgated under Part 55, Air Pollution Control, of Act 451.	2 2
6.0	<u>OPERATION AND MAINTENANCE RECOVERY DATA</u> Section 21307(2)(c)(i),(ii) and (3)(c) A. Describe any free product system design modifications, since last submittal. B. Provide the action levels that may trigger a change in remediation strategy.	2 2
7.0	<u>PROPOSED FUTURE ACTIONS</u> Section 21307(2)(e) and Section 21309a(2)(e) A. Provide a schedule for free product evaluation and groundwater sampling. B. Provide a schedule outlining the next operation and maintenance activities. C. Provide the date of the next report.	3 3 3

**QUARTERLY FREE PRODUCT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY NO. 00013464
14044 SCHAEFER HWY., DETROIT, MICHIGAN**

FREE PRODUCT DISCOVERY, IMMEDIATE RESPONSE, AND REPORTING

Free Product Discovery

During a groundwater sampling event conducted on April 16, 2003, free product was discovered in monitor well MW-15 (refer to the attached Site Sketch for location) at the site.

Immediate Response Activities

Approximately 1.08 inches of free product thickness was measured and 0.05 gallons of free product were removed from MW-15 (refer to Table 1 for free product elevation data and removal quantities). The free product was removed from MW-15 by hand bailing using a disposable bailer and containerized in a 55-gallon steel DOT approved drum that was properly labeled and stored on-site. Existing monitor wells on- and off-site were gauged during the sampling event and free product was not present in any other monitor wells. In addition, the site was surveyed for possible fire, explosion, and vapor hazards. The results of the survey indicated that no fire, explosion, or vapor hazards were present.

Reporting

The Michigan Department of Environmental Quality (MDEQ) was notified within 24-hours by fax transmittal using the MDEQ Free Product Fax Transmittal form.

Following the May 15, 2003, site visit, monthly site visits have been continued to date. A monthly site visit was conducted on June 26, 2003 to gauge apparent free product thickness and perform free product recovery.

FREE PRODUCT REMOVAL ACTIVITIES

After the discovery of free product in MW-15, the site was monitored for free product on a weekly basis for one month. Since the quantity of free product removed was consistent, the frequency of the free product site monitoring visits was revised to monthly.

Field data obtained from the first monthly (June 26, 2003) free product site monitoring visit indicated a slight increase in free product thickness but not a significant increase. Based on this information, the frequency of free product monitoring site visits will continue monthly and free product recovery will be performed by hand-bailing techniques.

The next monthly free product site monitoring visit is scheduled for July 25, 2003. During the site visit, the existing nearby monitor wells on- and off-site will be screened. If it is determined that the quantity or thickness of free product has significantly increased

or free product is discovered in other monitor wells, the current free product recovery method will be revised to an active recovery system.

EXPOSURE PATHWAY EVALUATION

Exposure pathways applicable to the site are consistent with the Final Assessment Report (FAR).

FREE PRODUCT DELINEATION

An Amended FAR is in the process of being completed for submittal to the MDEQ by the end of July 2003. Free product will be delineated during the installation of the proposed remediation system (as summarized in the Corrective Action Plan of the Amended FAR). A summary of the free product delineation activities and results will be presented in the next Quarterly Free Product Report (October 15, 2003).

DATA TREND ANALYSIS

Free product elevation data, apparent free product thickness, and quantity of free product removed from April 16, 2003 through June 26, 2003 is presented in Table 1. Graph 1 depicts the static water level elevations of MW-15 versus the apparent free product thickness over time. Graph 2 depicts the results of a free product bail-down test performed at MW-15

FEASABILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM

On April 17, 2003, a bail-down test was performed at MW-15. The bail-down test recovery data for MW-15 is provided on Graph 2. Based on the free product thickness and quantity encountered since June 26, 2003, monthly free product monitoring and recovery by hand-bailing method is appropriate. However, if the results of the free product delineation activities or monthly free product site monitoring indicate an unstable or increasing free product plume, then the current recovery system will be immediately revised to stabilize and reduce the plume.

PERMITTING AND WASTE DISPOSAL TRACKING

Free product recovered from MW-15 to date (a total of 1.19 gallons) was placed in a properly labeled, DOT approved, 55-gallon drum, and stored on-site.

Air quality sampling and calculations are not deemed necessary at this time since the free product is recovered by hand-bailing using a disposable bailer.

PROPOSED FUTURE ACTIONS

Monthly Free Product Monitoring

Monthly free product monitoring and recovery will continue.

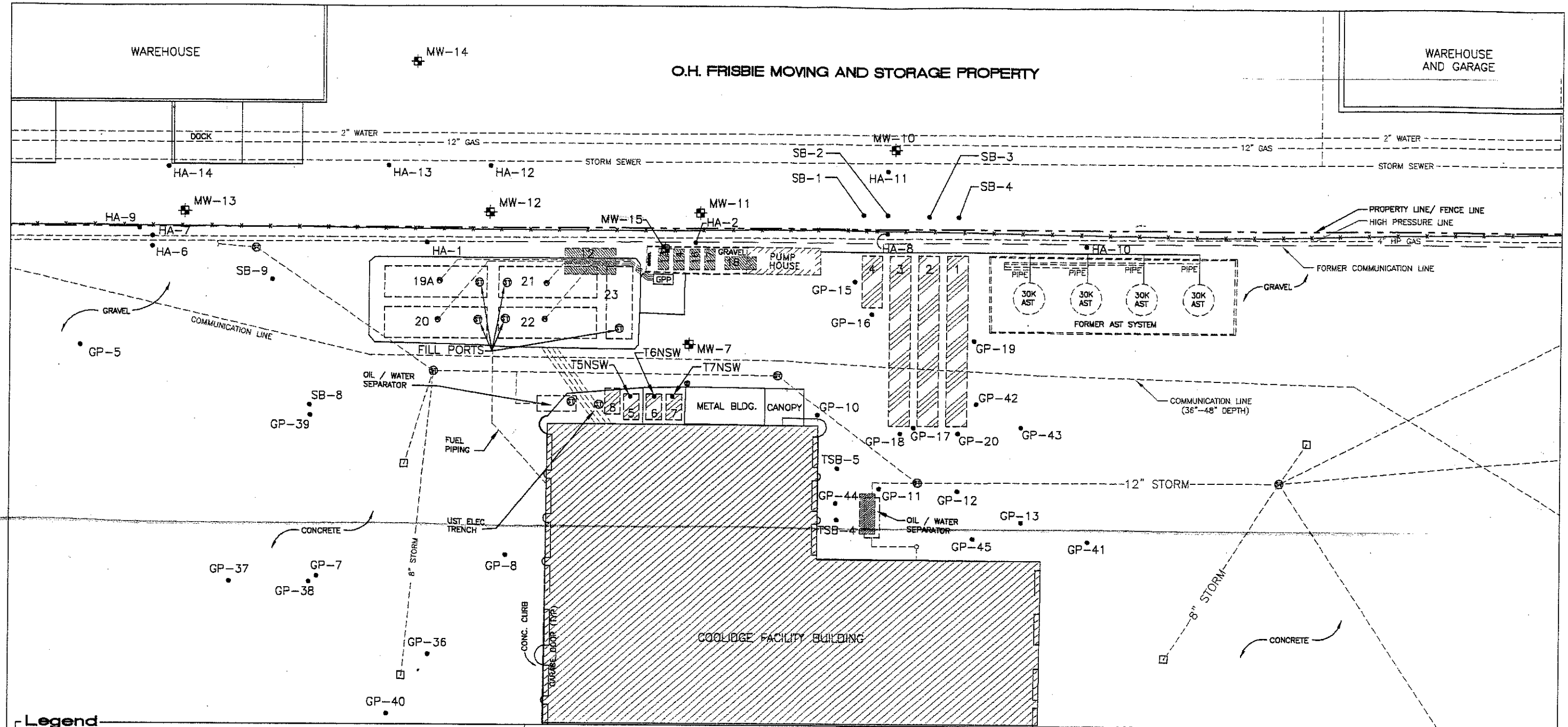
Free Product Delineation Activities

The free product plume will be delineated during the installation of the remediation system. The results will be included in the next Quarterly Free Product Report.

Next Quarterly Free Product Report

The next Quarterly Free Product Report will be submitted to the MDEQ on or before October 15, 2003.

O.H. FRISBIE MOVING AND STORAGE PROPERTY



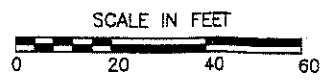
Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- SOIL BORING
- ⊕ MONITOR WELL
- CATCH BASIN
- ⊙ STORM MH
- ⊕ FILL PORT
- ⊕ GAS DISPENSER
- - - UNDERGROUND UTILITY
- x-x- FENCE

TANK # AND DESCRIPTION		TANK # AND DESCRIPTION		TANK # AND DESCRIPTION	
1	FORMER AQUA DIESEL - 50,000 GAL-CIP	12	FORMER GASOLINE - 12,000 GAL-REMOVED	20	DIESEL 25,000 GAL - IN OPERATION
2	FORMER AQUA DIESEL - 50,000 GAL-CIP	13	FORMER AQUA SYSTEM - 500 GAL-REMOVED	21	DIESEL 25,000 GAL - IN OPERATION
3	FORMER AQUA DIESEL - 50,000 GAL-CIP	14	FORMER AQUA SYSTEM - 500 GAL-REMOVED	22	DIESEL 25,000 GAL - IN OPERATION
4	FORMER AQUA GASOLINE - 12,000 GAL-CIP	16	FORMER AQUA SYSTEM - 500 GAL-REMOVED	23	GASOLINE 10,000 GAL - IN OPERATION
5	FORMER ENGINE OIL - 1,000 GAL-CIP	17	FORMER AQUA SYSTEM - 500 GAL-REMOVED		
6	FORMER ENGINE OIL - 1,000 GAL-CIP	18	FORMER AQUA SYSTEM - 1,000 GAL-REMOVED		
7	FORMER CONVERTER OIL - 1,000 GAL-CIP	19	FORMER GASOLINE - 12,000 GAL-REMOVED		
8	FORMER DEXTRON - 1,000 GAL-CIP	19A	DIESEL 25,000 GAL - IN OPERATION		



FILE LOCATION: V:\Projects 1999\99999-7\Draw\Construction\A0204010.dwg

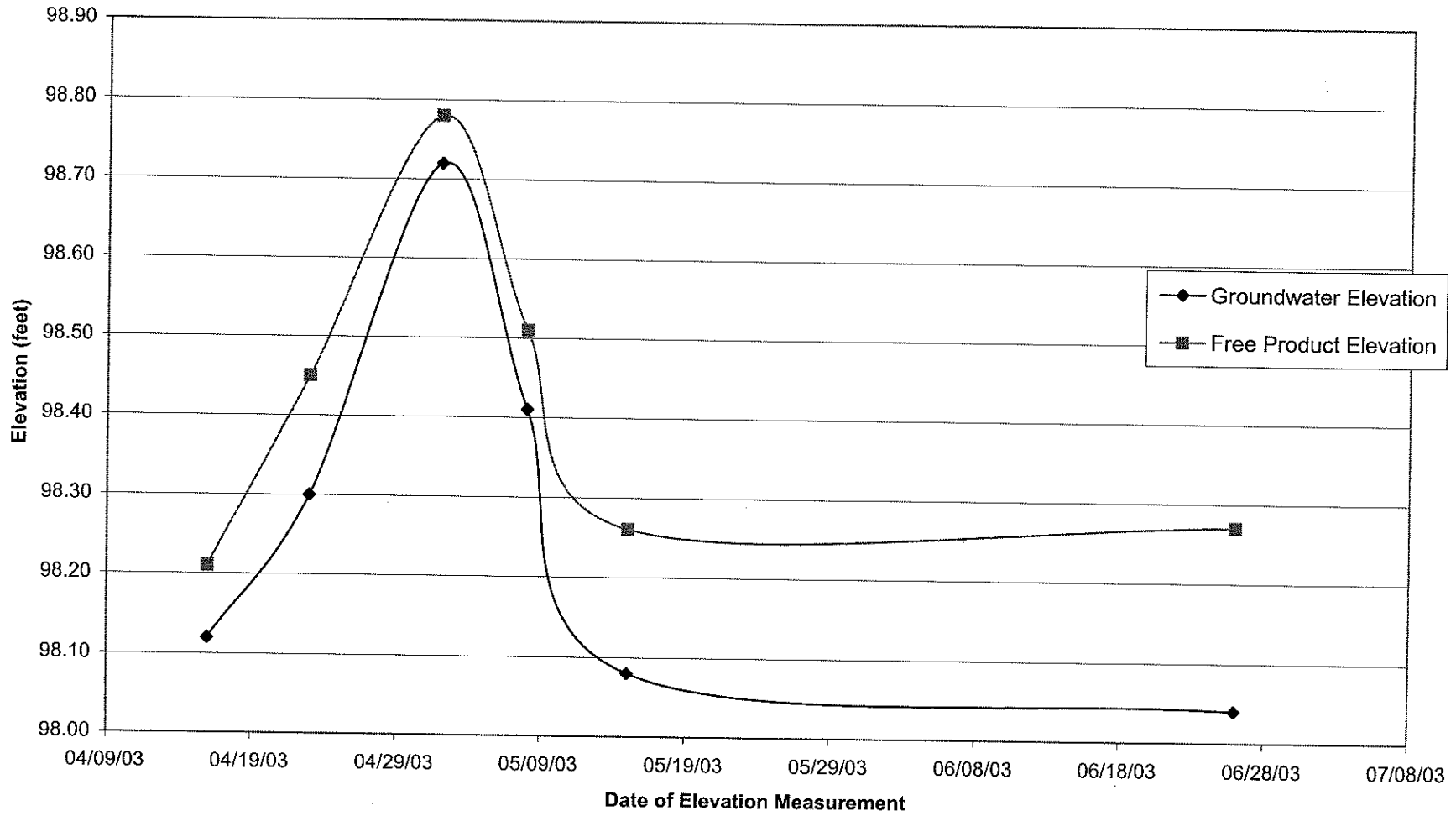


SITE SKETCH
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

Table 1
Summary of Elevation Data
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan

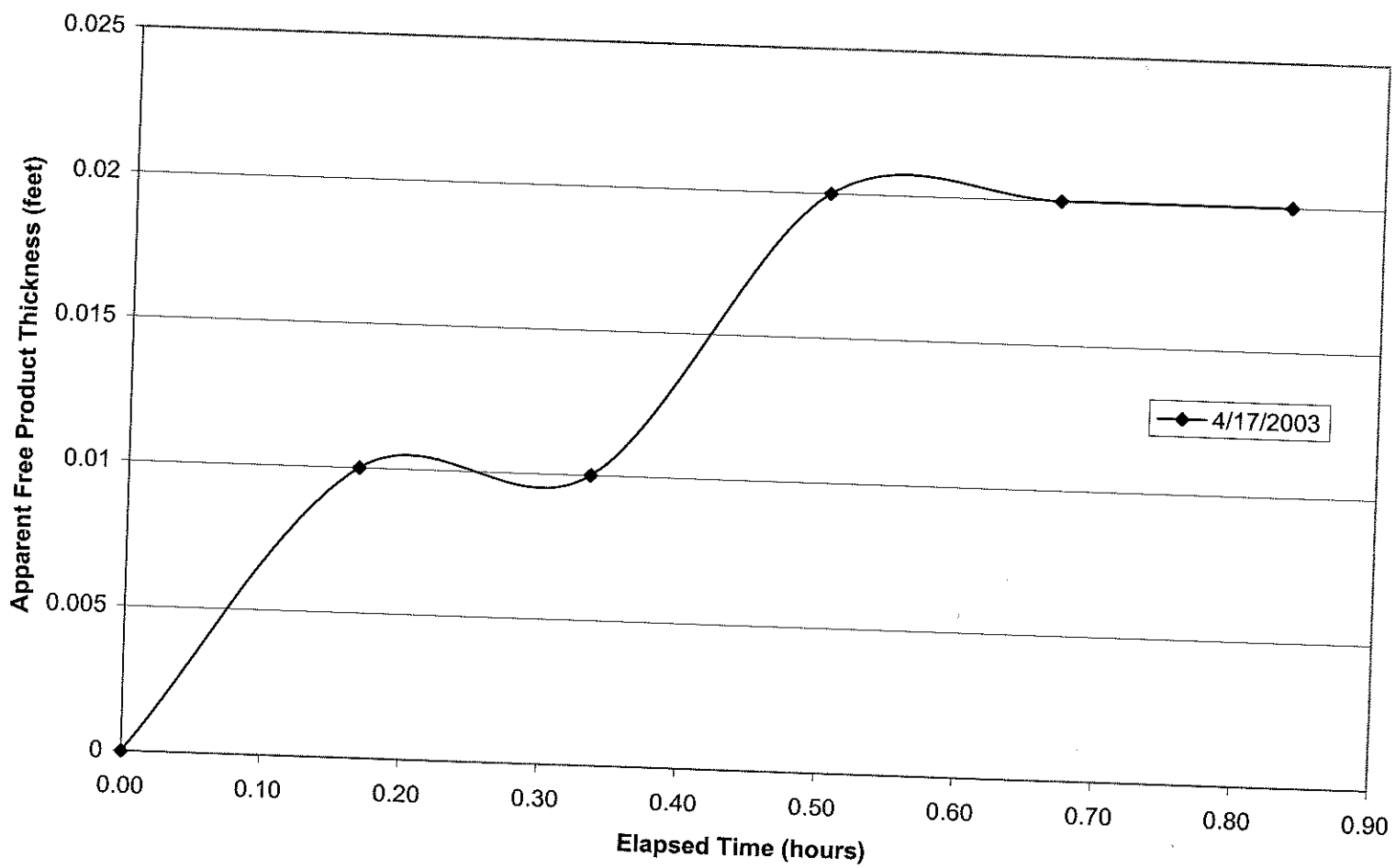
Location	Date Measured	Top of Casing Elevation (feet)	Groundwater Elevation (feet)	Product Elevation (feet)	Apparent Free Product Thickness (inches)	Quantity of Free Product Removed (gallons)
MW-15	04/16/03	100.03	98.12	98.21	1.08	0.05
	04/23/03		98.30	98.45	1.80	0.06
	05/02/03		98.72	98.78	0.72	0.06
	05/08/03		98.41	98.51	1.20	0.03
	05/15/03		98.08	98.26	2.16	0.09
	06/26/03		98.04	98.27	2.76	0.90
Total Free Product Removed to Date:						1.19

Graph 1
Apparent Free Product Thickness MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan



The Traverse Group

Graph 2
Free Product Baildown Test Results MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan

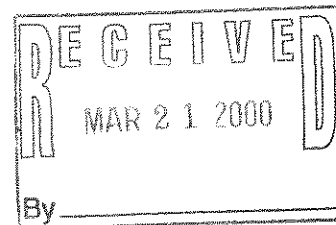


The Traverse Group

**LEAKING UNDERGROUND STORAGE TANK
INITIAL ASSESSMENT REPORT**

**DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
14044 SCHAEFER HIGHWAY
DETROIT, MI 48227
FACILITY ID # 0-013464**

March 20, 2000



**The Traverse Group
3772 Plaza Drive
Ann Arbor, Michigan 48108
(734) 747-9301**





LEAKING UNDERGROUND STORAGE TANK INITIAL ASSESSMENT REPORT

INSTRUCTIONS: COMPLETION OF THIS REPORT WITH ALL APPLICABLE INFORMATION IS MANDATORY. Complete this form with all applicable information. The Certified Underground Storage Tank Professional (CP) MUST sign below. Failure to submit a report within the stated time period may result in Administrative Penalties as provided for in Part 213, Section 21313a of Act 451, P.A. 1994 as amended.

FACILITY NAME: Department of Transportation FACILITY ID NUMBER: 0-013464

ADDRESS: 14044 Schaefer Highway

CITY: Detroit ZIP: 48227 COUNTY: Wayne

DATE(S) RELEASE DISCOVERED: 1) 12/20/99 2) 12/20/99 3) 12/30/99 4) 1/25/00 CONFIRMED RELEASE NUMBER(S): 1) C-13329-99 2) C-1333-99 3) C-1388-99 4) C-88-00

O/O NAME: City of Detroit

O/O ADDRESS: 5300 Chrysler Drive STATE: MI ZIP: 48211

CONTACT PERSON: Thomas Catron PHONE NUMBER: (313) 833-5685

ANSWER ALL QUESTIONS (DO NOT LEAVE BLANKS):

1. a. Has the UST been emptied? [X] Yes [] No (If no, explain why):

b. Has the UST system been properly closed? [X] Yes [] No (If no, explain why):

2. Free product present: a. Currently? [] YES [X] NO If YES, total gallons recovered since last report: None

b. Previously? [] YES [X] NO If YES, total gallons recovered to date: None

3. Have vapors been identified in any confined spaces (basement, sewers, etc.)? [] YES [X] NO

4. State the number of homes where drinking water is or was affected as a result of a release from this facility: 0

5. Estimated distance and direction from point of release to nearest: a. Private well: > 1/2 Mile b. Municipal well: > 1/2 Mile c. Surface water/wetland: > 1 Mile South of the site is the Detroit River.

6. Totals to date: a. cubic yards of soil remediated: Approx. 1,020 b. gallons of groundwater remediated: None

7. Michigan RBCA Site Classification (1-4): 3

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate and complete. I certify that it was submitted to the Storage Tank Division (STD) on

3/20/00 date submitted (REQUIRED)

[Signature] Date 3/20/00

Jeffrey S. Brown PRINT CP's Name

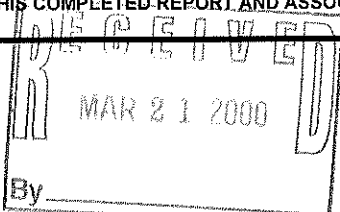
Carolyn L. Paplin PRINT QC Project Manager's Name

The Traverse Group CONSULTANT

3772 Plaza Drive, Ann Arbor, Michigan 48108 ADDRESS

(734) 747-9301 (734) 747-9229 PHONE NO. FAX NO.

PLEASE RETURN THIS COMPLETED REPORT AND ASSOCIATED ATTACHMENTS TO THE APPROPRIATE STD DISTRICT OFFICE, LISTED ON THE BACK OF THIS PAGE.



STORAGE TANK DIVISION OFFICES AND LOCATIONS

Determine in which county/city the UST is located. Return all completed forms and associated reports to the STD office listed next to that county/city in the following table. Addresses for the STD offices are listed below.

COUNTY	STD OFFICE	COUNTY	STD OFFICE	COUNTY	STD OFFICE	COUNTY	STD OFFICE
Alcona	Gaylord	Dickinson	Marquette	Lake	Cadillac	Oceana	Grand Rapids
Alger	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Gaylord
Allegan	Plainwell	Emmet	Gaylord	Leelanau	Cadillac	Ontonagon	Marquette
Alpena	Gaylord	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Cadillac
Antrim	Gaylord	Gladwin	Gaylord	Livingston	Shiawassee	Oscoda	Gaylord
Arenac	Gaylord	Gogebic	Marquette	Luce	Marquette	Otsego	Gaylord
Baraga	Marquette	Grand Traverse	Cadillac	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Gratiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Gaylord
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Cadillac	Roscommon	Gaylord
Benzie	Cadillac	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Cadillac	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Gaylord	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Gaylord	Iron	Marquette	Missaukee	Cadillac	St Joseph	Plainwell
Cheboygan	Gaylord	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Gaylord	Kalamazoo	Plainwell	Montmorency	Gaylord	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Cadillac	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Gaylord	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Cadillac
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		
CITY	STD OFFICE	CITY	STD OFFICE	CITY	STD OFFICE		
Detroit	Detroit	Highland Park	Detroit	Hamtramck	Detroit		

<u>CADILLAC OFFICE</u> 120 W CHAPIN ST CADILLAC MI 49601-2158 616-775-3960 (PHONE) 616-775-1511 (FAX)	<u>DETROIT OFFICE</u> 300 RIVERPLACE, SUITE 3600 DETROIT MI 48207 313-392-6480 (PHONE) 313-392-6488 (FAX)	<u>PLAINWELL OFFICE</u> 1342 SR-89 WEST, SUITE B PLAINWELL MI 49080-1915 616-692-2120 (PHONE) 616-692-3050 (FAX)
<u>GAYLORD OFFICE</u> 1732 W M-32, PO BOX 667 GAYLORD MI 49735-0667 517-731-4920 (PHONE) 517-731-6181 (FAX)	<u>JACKSON OFFICE</u> 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201-1556 517-780-7690 (PHONE) 517-780-7855 (FAX)	<u>SAGINAW-BAY OFFICE</u> 503 N EUCLID AVE SUITE 1 BAY CITY MI 48706-2965 517-686-8025 (PHONE) 517-684-9799 (FAX)
<u>GRAND RAPIDS OFFICE</u> 350 OTTAWA ST NW 6TH FLOOR GRAND RAPIDS MI 49503-2341 616-456-5071 (PHONE) 616-456-1239 (FAX)	<u>MARQUETTE OFFICE</u> 1990 US 41 SOUTH MARQUETTE MI 49855-9198 906-228-6561 (PHONE) 906-228-5245 (FAX)	<u>SHIAWASSEE OFFICE</u> 10650 BENNETT DR MORRICE MI 48857-9792 517-625-5515 (PHONE) 517-625-5000 (FAX)
<u>SE MICHIGAN OFFICE</u> 38980 SEVEN MILE RD LIVONIA MI 48152-1006 734-953-8905 (PHONE) 734-432-1295 (FAX)	<u>HEADQUARTERS</u> 333 S CAPITOL AVE PO BOX 30157 LANSING MI 48909-7657 517-373-8168 (PHONE) 517-335-2245 (FAX)	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - STORAGE TANK DIVISION
INITIAL ASSESSMENT REPORT (Continued)

Instructions - Utilize the following checklist to ensure that all required information is provided in the Initial Assessment Report (IAR). Include this checklist as the table of contents. The order in which the information is provided is at your discretion. Each page of the report (including the cover sheet, table of contents, appendices, figures, etc.) should be consecutively numbered. The location column should be completed with the appropriate page number for each item. You may reference previously submitted materials by specifying the location within that document. Maps, tables, figures, etc. should be combined as appropriate.

All information required by Part 213 to be included in the IAR **must** be provided, and all sections of the report must be completed. If any items are not applicable to the site, provide a justification regarding the absence of this information in the appropriate section of the report.

Section	Table of Contents	Page
1.0	<u>INITIAL RESPONSE TO RELEASES</u>	
A.	Provide the date and time the release(s) was/were discovered and reported.	10
B.	Indicate what portion of the underground storage tank (UST) system is, or is believed to be, the source of the release.	10
C.	Describe how the release was discovered.	11
D.	Describe any tank tightness testing performed in response to this release and provide the following:	11
	1. Date of the testing	
	2. Method of testing	
	3. Results of the testing	
E.	List all former and existing USTs at this facility including the following information for each of these tanks:	11
	1. Tank ID Number (as registered)	
	2. Contents (past/present, if gasoline specify grade and whether leaded or unleaded)	
	3. Size of the UST	
	4. Whether the tank was identified as a leaking underground storage tank (LUST)	
	5. Whether the tank has been emptied and/or removed. If a LUST, provide an explanation if not emptied or removed	
F.	Describe the initial response actions which were performed at this site, as specified in Sections 21307(2)(a) through (c), and (3)(a) and (b).	12
2.0	<u>REPORTING AND RESPONSE FOLLOWING THE DISCOVERY OF FREE PRODUCT</u>	
	If free product has not been discovered, proceed to Section 3.0.	
A.	Describe initial response actions performed at this site to address the presence of free product as specified in Sections 21307(2)(c) and (f), and (3)(b) and (c), 21308a(1)(b)(xviii). Refer to the STD Operational Memorandum No. 7, <i>Identification, Reporting, and Recovery of Free Product at LUST Sites</i> .	12
B.	Attach the STD Free Product Recovery Status Report (EQP 3850).	12
C.	Include a schedule for subsequent Free Product Report submittals.	12

Section	Table of Contents	Page
3.0	<u>SITE CHARACTERIZATION INFORMATION</u>	
3.1	SCALED SITE MAPS	
A.	Provide a scaled area map (or maps) which includes the following:	
1.	Site boundaries in relation to the surrounding area and the nearest major roads	12
2.	Location and depth of nearby underground sewers and utility lines	Figure 2
3.	Location of nearby surface waters or wetlands	Figure 1
4.	Location and screened depth of all off-site wells (municipal, residential, production, irrigation, etc.) within two years groundwater travel time of the property line, which may be dependent on the pumping rates of the identified well(s)	NA
5.	Location of all nearby delineated well-head protection areas	NA
B.	Provide a scaled site map (or maps) which includes the following:	
1.	Location of fill ports, piping, dispensers, and other pertinent system components for all UST systems currently or formerly at the facility (<i>prior to excavation if tanks have been removed</i>)	Figure 2
2.	Location of the release and the component of the LUST system from which the release occurred	13
3.	Location of adjacent buildings, roadways, paved areas, or other structures	Figure 2
4.	Location of all on-site wells and screened intervals	Figure 2
5.	Location of soil, groundwater, surface water, sediment or air samples, as applicable	Fig. 3,4,5
6.	Excavation dimensions and sample locations if applicable	Fig. 3,4,5
3.2	SCALED CROSS-SECTIONAL DIAGRAMS	13
A.	Provide scaled cross-sectional diagrams of buried utility corridors, including the pipe diameter, the type of backfill, and the trench depth.	NA
B.	Provide scaled cross-sectional diagrams depicting the soil lithology and the contaminant distribution, including sampling intervals and boring depths.	NA
C.	Provide scaled cross-sectional diagrams depicting the site hydrogeology, including the groundwater potentiometric surface, the monitoring well screened intervals, and sampling intervals.	NA
3.3	SOIL CONDITIONS AND CHARACTERISTICS	
A.	Describe the soils encountered in the vadose zone.	14
B.	Describe any soil contamination which has been detected.	14
C.	Describe any soil remediation or disposal activities performed to date, including the total volume of soil remediated or disposed. Indicate the disposal location, and provide proof of disposal (e.g., invoices, not load tickets).	17

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D.	Provide a site diagram which identifies the estimated horizontal and vertical extent of on-site and off-site soil contamination. Include the maximum concentrations and sample depths.	17
E.	Provide an estimate of the volume of impacted soil remaining in the vadose zone.	17
F.	Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, to complete the delineation of the extent of the <u>off-site</u> impact of the release to soil. Include the names and addresses of potentially affected off-site property owners.	18
G.	Provide the schedule for completing the delineation of the extent of the <u>off-site</u> impact of the release to soil.	18
H.	Provide a table with field screening and laboratory data showing the results of all soil sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14 <i>Analytical Parameters and Methods, Sample Handling, and Preservation for Petroleum Releases</i> .	Tables 1, 2a & 2b
	<ol style="list-style-type: none"> 1. Sample ID 2. Sample depth 3. Date of collection 4. Dates of extraction and analysis 5. Method Detection Limits 6. Analytical method or field screening instrument 	
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
I.	Provide a table which compares the maximum remaining soil contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4 <i>Tier I Lookup Tables for Risk-Based Corrective Action at Leaking Underground Storage Tank Sites</i> . If residential leaching to groundwater RBSLs are not utilized for comparison, provide an explanation.	19
J.	Provide soil boring logs.	19
K.	Identify any known soil contamination not related to the release and the source, if known.	NA
3.4 GROUNDWATER CONDITIONS AND CHARACTERISTICS		
A.	Describe the site hydrogeology, and include the following:	
	<ol style="list-style-type: none"> 1. Depth to groundwater and method of determination 2. Whether the groundwater is potable and/or not in an aquifer. Provide the basis for this determination. Refer to STD Operational Memorandum No.11 <i>Criteria to Eliminate the Potable Groundwater Pathway</i>. 	20
		20

Section	Table of Contents	Page
	3. Whether the groundwater is currently used as a source of drinking water, either residential or municipal	20
	4. Whether groundwater is being used for a purpose other than drinking water	20
	5. Whether more than one groundwater unit is present beneath the site	20
	6. Depth to bottom of water-bearing layer	NA
	7. Predominant soil type in water-bearing stratum (e.g., sand, silt)	20
	8. Effective porosity of water-bearing stratum (in $\text{cm}^3_{\text{void}}/\text{cm}^3_{\text{matrix}}$), and describe how it was determined	NA
	9. Hydraulic conductivity, and describe how it was determined	NA
	10. Groundwater flow rate and direction	NA
	11. Lateral component of the hydraulic gradient	NA
	12. Hydrogeologic conditions that could influence flow direction	NA
	13. Magnitude and direction of the vertical component of the hydraulic gradient	NA
B.	Attach copies of the following:	
	1. Boring logs	Attach. A
	2. Well construction diagrams	NA
	3. Potentiometric surface map	NA
	4. Elevation data (USGS datum preferred), including top-of-casing, and grade elevations, and depth to groundwater	NA
C.	Provide scaled maps and cross-sectional diagrams, showing the screened and/or sampling interval, which depict the extent of impact and the maximum concentrations.	Fig. 4
D.	Indicate whether more than one groundwater unit has been impacted.	NA
E.	Describe any groundwater remediation activities performed to date, including the total volume of groundwater remediated and the disposition of this groundwater.	NA
F.	Provide an indication of whether the plume currently extends off-site.	21
G.	Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, for the purpose of completing the delineation of the extent of the release to groundwater, and provide the names and addresses of off-site property owners.	21
H.	Provide the schedule for completing the delineation of the extent of the off-site impact of the release to groundwater.	21
I.	Provide a table with field screening and laboratory data showing the results of all groundwater sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14. The table should include the following:	
	1. Sample ID	
	2. Sample depth and/or screened interval	
	3. Date of collection	
	4. Dates of extraction and analysis	
	5. Method Detection Limits	Table 3

Section	Table of Contents	Page
	6. Analytical method or field screening instrument	
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
	J. Provide a table which compares the maximum remaining groundwater contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4. If residential health-based/aesthetic drinking water criteria are not utilized for comparison, provide an explanation.	Table 4
	K. Identify any known groundwater contamination not related to the release and the source, if known.	NA
3.5	CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA	
	A. Describe the evaluations conducted to determine if other environmental media have been impacted.	NA
	B. Describe the extent and distribution of any contamination present in any environmental media other than soil or groundwater.	NA
	C. Describe any actions taken or planned in response to contamination in other environmental media.	NA
	D. Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, to complete the delineation of the extent of the <u>off-site</u> impact of the release to the other specified environmental media. Provide names and addresses of potentially affected off-site property owners.	NA
	E. Provide a schedule for completing the delineation of the extent of the <u>off-site</u> impact of the release to the other specified environmental media.	NA
	F. Provide a table with the field screening and laboratory data showing the results of all sampling performed to date in the other specified environmental media.	NA
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
	G. Identify any known contamination in the other specified media not related to the release, and the source if known.	NA
4.0	<u>SITE CLASSIFICATION</u>	
	A. Indicate the current Site Classification Level, in accordance with STD Operational Memorandum No. 5, <i>Leaking Underground Storage Tank (LUST) Site Classification System</i> .	22

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B. Provide a justification for this classification. Identify the current conditions that are the basis of the classification, and dates that the prescribed initial response actions were implemented.	<u>22</u>
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5.0 RESULTS OF THE RBCA EVALUATION

5.1 EXPOSURE PATHWAY CHARACTERIZATION

A. Identify and describe the following (Figure 2, <u>Exposure Scenario Evaluation Flowchart</u> , provided in the <i>ASTM RBCA E 1739-95</i> , may be utilized):	
1. Potential source(s)	<u>22</u>
2. Potential transport mechanism(s)	<u>22</u>
3. Potential exposure routes(s)	<u>22</u>
4. Potential receptor(s)	<u>22</u>
B. List each possible exposure pathway(s) for each land use, and sensitive habitat (if applicable) for the site. Provide an explanation for eliminating any pathways.	<u>23</u>

NOTE: A complete pathway must include three necessary elements:

- 1) a source (e.g., contamination);*
- 2) a mechanism by which the contamination can become available to result in exposures at the source or via migration to other locations (e.g., free product and contaminated groundwater movement along a buried utility corridor); and*
- 3) an individual who may come into contact, ingest, or inhale the contamination at the point of exposure (e.g., a utility maintenance worker digging to repair the line).*

Examples of a complete pathway include:

- 1) inhalation of impacted soils by an on-site construction worker*
- 2) impacted soils leaching into potable ground water and being used by a nearby resident for drinking and bathing*
- 3) inhalation of vapors resulting from the migration of free product by a neighboring industrial worker*
- 4) impacted groundwater discharging to wetlands.*

5.2 OPTIONAL TIER II EVALUATION

A. Indicate whether a site-specific Tier II or evaluation has been conducted for this site.	<u>NA</u>
B. If applicable, identify and justify where alternate assumptions or site-specific information were used in place of the default assumptions as defined in the STD Operational Memorandum No. 4.	<u>NA</u>
C. Provide the calculations and reference citations supporting the development of the relevant Tier II SSTLs.	<u>NA</u>

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- D. Provide a table which compares the maximum remaining contaminant concentrations for each required parameter for all media to the appropriate RBSLs (as provided in the STD Operational Memorandum No. 4), and the calculated SSTLs. Identify all applicable land use scenario(s), and indicate whether or not there is an exceedance of the RBSLs or the SSTLs.

NA

5.3 PROPOSED FOLLOW-UP ACTIVITIES

- A. Based on the results of the Tier I or optional Tier II evaluation, indicate the follow-up activities proposed for the site, (e.g., site closure; interim corrective action with subsequent reevaluation; final corrective action to achieve Tier I RBSLs or Tier II SSTLs; or perform further site-specific Tier II or Tier III evaluation to establish alternative SSTLs that meet the target risk goals).

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- B. Provide justification for the option chosen.

24

- C. Provide a Work Plan and implementation schedule that describes the proposed site characterization activities to be performed to determine the horizontal and vertical extent of contamination. Include a scaled site map depicting proposed sampling locations.

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1.0 INITIAL RESPONSE TO RELEASES

A. Provide the date and time the release(s) was/were discovered and reported.

Confirmed Release Number	Date & Time Discovered	Date & Time Reported	Substance Released	Location of Release (Figure 2)
C-1332-99	12/20/99 9:00 am	12/20/99 9:40 am	Engine Oil & Gasoline	Piping associated with Tank No. 9, 10, & 19
C-1333-99	12/20/99 12:40 pm	12/20/99 2:34 pm	Gasoline	Piping associated with Tank No. 12
C-1388-99	12/30/99 12:00 pm	12/30/99 2:53 pm	Residual Oils & Diesel	Area of closed-in-place Tank No. 5, 6, 7, & 8 and Tank No. 14, 16, & 18.
C-88-00	1/25/00 2:09 pm	1/26/00 10:08 am	Diesel	Area of closed-in-place Tank No. 1, 2, & 3

B. Indicate what portion of the underground storage tank (UST) system is, or is believed to be, the source of the release.

Confirmed Release No. C-1332-99 and C-1333-99:

During UST removal activities, the source of the engine oil & gasoline releases appeared to be from the associated product piping of Tank No. 9, 10, 12, and 19.

Confirmed Release No. C-1388-99:

During the removal of Tank No. 13, 14, 16, and 18, corrosion holes were observed on the bottom of the tanks. The source of the diesel release is believed to be the tanks.

During Geoprobe® drilling, elevated photoionization detection (PID) readings were detected from soil samples collected in the immediate vicinity of closed-in-place Tank No. 5, 6, 7, and 8. It is unknown what portion of the UST system is the source of the residual oil release.

Confirmed Release No. C-88-00:

Laboratory analytical results from soil samples collected during Geoprobe® drilling in the immediate vicinity of the closed-in-place Tank No. 1, 2, and 3 indicated that elevated contaminate concentrations were detected. It is unknown what portion of the UST system is the source of the diesel release.

C. Describe how the release was discovered.

Confirmed Release No. C-1332-99 and C-1332:

A confirmed release was reported based on stained soils, petroleum odor, and elevated PID readings detected during the removal of Tank No. 9, 10, 12, and 19.

Confirmed Release No. C-1388-99:

A confirmed release was reported based on petroleum odor and elevated PID readings detected during Geoprobe® drilling activities in the immediate vicinity of closed-in-place Tank No. 5, 6, 7, and Tank No. 8, 13, 14, 16, and 18.

Confirmed Release No. C-88-00:

A confirmed release was reported based on the analytical results from soil samples collected during Geoprobe® drilling in the immediate vicinity of closed-in-place Tank No. 1, 2, and 3

D. Describe any tank tightness testing performed in response to this release and provide the date of testing, method of testing, and results of testing.

Not Applicable. Each of the USTs at the subject site were removed or closed-in-place. Therefore, tank tightness testing was not necessary.

E. List all former and existing USTs at the facility.

Tank ID Number (As Registered)	Tank Capacity (gallons)	Contents (Regulated Substance)	Was the tank identified as a LUST?	Has the tank been emptied (Date)?	Has the tank been removed or closed-in-place (Date)?
1	50,000	Diesel	No	Yes, 12/30/99	Closed-in-place, 1/5/00
2	50,000	Diesel	No	Yes, 12/22/99	Closed-in-place, 12/22/99
3	50,000	Diesel	No	Yes, 12/30/99	Closed-in-place, 1/4/00
4	12,000	Gasoline	No	Yes, 12/29/99	Closed-in-place, 1/4/00
5	1,000	Engine Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
6	1,000	Engine Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
7	1,000	Converter Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
8	1,000	Dextron	No	Yes, 1/4/00	Closed-in-place, 1/4/00
9	20,000	Engine Reserves	No	Yes, 12/20/99	Yes, Removed 12/20/99
10	20,000	Engine Reserves	No	Yes, 12/20/99	Yes, Removed 12/20/99
11	1,500	Waste Oil	No	Yes, 12/22/99	Closed-in-place, 12/22/99
12	12,000	Gasoline	No	Yes, 12/21/99	Yes, Removed 12/21/99
14	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
15	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
16	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
17	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
18	1,000	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
19	20,000	Gasoline	No	Yes, 12/23/99	Yes, Removed 12/23/99

F. Describe the initial response actions which were performed at this site, as specified in Sections 21307(2)(a) through (c), and (3)(a) and (b).

In December 1999, during UST closure activities, the site was surveyed for possible fire, explosion, and vapor hazards. No fire, explosion, or vapor hazards were readily observed at the subject site.

2.0 REPORTING AND RESPONSE FOLLOWING THE DISCOVERY OF THE FREE PRODUCT

A. Describe initial response actions performed at this site to address the presence of free product as specified in Sections 21307(2)(c) and (f), and (3)(b) and (c), 21308a (1)(b)(xviii). Refer to the STD Operational Memorandum No. 7, Identification, Reporting, and Recovery of Free Product at LUST Sites.

Not Applicable. Free product has not been encountered at the site.

B. Attach the USTD Free Product Recovery Status Report (EQP 3850).

Not Applicable.

C. Include a schedule for subsequent Free Product Report Submittals.

Not Applicable.

3.0 SITE CHARACTERIZATION INFORMATION

3.1 SCALED SITE MAPS

A. Provide a scaled area map (or maps) which includes the following: site boundaries in relation to the surrounding area and the nearest major roads, location and depth of nearby underground sewers and utility lines; location of nearby surface waters or wetlands, location and screened depth of all off-site wells (municipal, residential, production, irrigation, etc.) within two years groundwater travel time of the property line; and location of all nearby delineated well-head protection areas.

Site boundaries in relation to the surrounding area and the nearest major roads and nearby surface waters are presented on Figure 1, Area Location Map. A water well search within a ½ mile radius of the site was conducted through the MDEQ Lansing office. Results of the water well search indicated that no water well records were located within a ½ mile radius of the subject site. In addition, the City of Detroit ordinance will not allow for the installation of a water supply well.

According to the MDEQ World Wide Web (www) page, a delineated well-head protection area map for Wayne County is currently under preparation and not available at this time.

B. Provide a scaled area map (or maps) which includes the following: location of fill ports, piping, and dispensers, and other pertinent system components for all UST systems currently or formerly at the facility (prior to excavation if tanks have been removed); location of the release and the component of the LUST system from which the release occurred; location of adjacent buildings and roadways, paved areas, or other structures; location of all on-site wells and screened intervals; location of soil and groundwater samples; and excavation dimensions with sample locations.

The location of the UST fill ports are presented on Figure 2. Also illustrated on Figure 2 are the adjacent properties, roadways, paved areas, site buildings, and site structures. Sample locations, UST excavation dimensions, and maximum soil concentrations are presented on Figures 3, 4, and 5.

Upon completion of the installation of monitor wells (as proposed in Section 5.3 C), a maximum groundwater concentration figure will be prepared and presented to the MDEQ in the Final Assessment Report (FAR).

3.2 SCALED CROSS-SECTIONAL DIAGRAMS

A. Provide scaled cross-sectional diagrams of buried utility corridors, including the pipe diameter, the type of backfill, and the trench depth.

Not available at this time. The City of Detroit Water & Sewage Department will be contacted for any available maps depicting the location and depth of buried utility corridors on or near the subject site. If available, a scaled cross-sectional diagram of the buried utility corridors will be prepared and submitted to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

B. Provide scaled cross-sectional diagrams depicting the soil lithology and the contaminant distribution, including sampling intervals and boring depths.

A cross-sectional diagram of the soil lithology and contaminant distribution, including sampling intervals and boring depths will be prepared and presented to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

C. Provide scaled cross-sectional diagrams depicting the site hydrogeology, including the groundwater potentiometric surface, the monitoring well screened intervals, and sampling intervals.

A cross-sectional diagram of the site hydrogeology, including the groundwater potentiometric surface, monitoring well screened intervals, and sampling intervals will also be prepared and presented to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

3.3 SOIL CONDITIONS AND CHARACTERISTICS

A. Describe soil encountered in the vadose zone.

Soil encountered at the site during UST closure and Geoprobe® drilling activities consisted of fill material (brown, fine-grained sand) ranging in depths from 0 to 6 feet below ground (bg). Underlying the fill material was clay ranging in depths from 2 to 16 feet bg, total depth explored. However, in soil borings GP-15, GP-16, GP-18, GP-19, and GP-20 fill material was encountered from 0 to 16 feet bg. Soil boring logs are included in Attachment A.

B. Describe any soil contamination which has been detected.

Closed-In-Place Diesel and Gasoline Aqua System USTs

On January 5, 2000, six soil borings were advanced using a Geoprobe® in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3) and the closed-in-place gasoline aqua system UST (Tank No. 4). These borings are denoted as GP-15, GP-16, GP-18, GP-19, and GP-20 on Figure 3. Laboratory analytical results for soil samples GP-15 (10-12' and 13-15'), GP-16 (7-8' and 10-12'), GP-18 (6-7' and 12-14'), GP-19 (9-7' and 15-16'), and GP-20 (7-8') indicated that lead was detected below the Statewide Default Background Level for lead. Ethylbenzene, xylenes, and 1,3,5-trimethylbenzene (from soil sample GP-18/6-7') and toluene and 1,2,4-trimethylbenzene (from soil samples GP-18/6-7' and GP-18/12-14') were also detected below the Tier I Commercial III RBSLs.

Benzene concentrations from soil sample GP-18 (6-7') were detected above the Tier I Commercial Drinking Water RBSL. Soil analytical data and soil sample locations are presented in Table 2a and on Figure 3, respectively.

A groundwater sample was collected from soil boring GP-20 (Figure 3). Groundwater analytical results indicated that naphthalene and 2-methylnaphthalene were detected below the Tier I Commercial III RBSLs. Groundwater analytical data is presented in Table 4.

Gasoline UST Excavation Area

On December 20, 1999, a total of five soil verification samples were collected from the sidewalls of the gasoline UST (Tank No. 12). These soil samples are denoted as 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), 12 W Sidewall (6'), and 12 SE Sidewall (4') on Figure 3. Groundwater was encountered in the excavation pit. Therefore, a groundwater sample (12 bottom) was collected in place of a bottom soil verification sample. Laboratory analytical results for soil samples 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), and 12 SE Sidewall (4') indicated that lead was detected below the Statewide Default Background Level for lead. However, lead was detected above the Statewide Default Background Level for soil sample 12 W Sidewall (6').

Various volatile organic compounds (VOCs) from soil samples 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), 12 W Sidewall (6'), and 12 SE Sidewall (4') were detected below the Tier I Commercial III RBSLs. The following VOC concentrations were detected above the Tier I Commercial III Drinking Water RBSL: benzene and 1,2,4-trimethylbenzene (from soil samples 12 N Sidewall/6', 12 S Sidewall/6', 12 E Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), toluene (from soil samples 12 N Sidewall/6', 12 E Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), xylenes and 1,3,5-trimethylbenzene (12 N Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), and naphthalene and 2-methylnaphthalene (from soil samples 12 N Sidewall/6' and 12 W Sidewall/6'). Soil analytical results and soil sample locations are presented in Table 2a and on Figure 3, respectively.

Groundwater analytical results for groundwater sample Tank 12 Bottom indicated that 1,1-dichloroethane, 1,2-dibromoethane, and lead were not detected at or above the MDEQ method detection limits. Methyl tert-butyl ether (MTBE) concentrations from Tank 12 Bottom was detected below the Tier I Commercial III RBSLs. However, benzene, toluene, ethylbenzene, and xylenes (BTEX), trimethylbenzenes (TMBs), naphthalene, and 2-methylnaphthalene concentrations were detected above the Tier I Commercial III Drinking Water RBSL. Groundwater analytical results are presented in Table 4. The location of Tank No. 12 is presented on Figure 3.

Aqua Trap USTs Excavation Area

On December 29 and 30, 1999, sixteen soil verification samples were collected in the vicinity of the former aqua trap system (Tanks No. 13, 14, 16, 17, and 18). These soil samples are denoted as 13 S Bottom (8'), 13 N Bottom (8'), 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 14 S Bottom (8'), 14 N Bottom (8'), 16 S Bottom (8'), 16 N Bottom (8'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 E Bottom (8'), and 18 W Bottom (8') on Figure 3. Laboratory analytical results for each of the sixteen soil samples indicated that lead was detected below the Statewide Default Background Level for lead.

Various polynuclear aromatics hydrocarbons (PNAs) were detected below the Tier I Commercial III RBSLs from soil samples 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 S Sidewall (6-8'), and 18 N Sidewall (18"). However, laboratory results indicated that from soil sample 13 W Sidewall (3-4') naphthalene was detected above the Tier I Commercial III Drinking Water RBSL.

Various VOCs were detected below the Tier I Commercial III RBSLs from soil samples 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 14 S Bottom (8'), 14 N Bottom (8'), 16 S Bottom (8'), 16 N Bottom (8'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 E Bottom (8'), and 18 W Bottom (8'). The following VOCs were detected above the Tier I Commercial III Drinking Water RBSL: benzene (from soil samples 13 S Sidewall/3-4', 13 W Sidewall/3-4', 16 S Sidewall/4-6', and 18 S Sidewall/6-8'), ethylbenzene and TMBs (from soil samples 13 S Sidewall/3-4', 13 W Sidewall/3-4', 16 S Sidewall/4-6', 16 N Sidewall/2-3', and 18 S Sidewall/6-8'), xylenes

(from soil samples 13 S Sidewall/3-4' and 16 N Sidewall/2-3'), naphthalene (from soil sample 13 S Sidewall/3-4'), and 2-methylnaphthalene (from soil samples 13 S Sidewall/2-3' and 16 S Sidewall/4-6'). Soil analytical data and soil sample locations are presented in Table 2a and on Figure 3, respectively.

Closed-In-Place Waste Oil UST

On December 30, 1999, four soil verification samples were collected in the vicinity of the closed-in-place waste oil UST (Tank No. 11). These soil samples are denoted as 11 S Bottom (11-12'), 11 N Bottom (10-11'), 11 S Sidewall (7-8')/GP-9, and 11 S Bottom (11-12')/GP-9 on Figure 4. Based on visual and PID readings, two of the four soil samples (11 S Bottom/11-12') and 11 N Bottom/10-11') were submitted for laboratory analysis. Laboratory analytical results for each of the two soil samples indicated that VOCs, PNAs, and polychlorinated biphenyls (PCBs) were not detected at or above the MDEQ method detection limits. Cadmium, chromium, and lead were detected below the Tier I Commercial III RBSLs for each of the two soil samples. Soil analytical data and soil sample locations are presented in Table 2a and on Figure 4, respectively.

Closed-In-Place Engine Oil, Converter Oil, and Dextron USTs

On December 30, 1999, and January 5, 2000, nine soil verification samples were collected using a Geoprobe® in the vicinity of the closed-in-place engine oil USTs, converter oil UST, and dextron UST (Tank No. 5, 6, 7, and 8). These soil samples are denoted as 5 N Sidewall (4-6'), 5 Bottom (10-11'), 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), 7 N Sidewall (6-7'), 7 Bottom (10-11'), 8 N End (2-3'), and 8 N End (10-11') on Figure 3. Laboratory results for soil samples 5 N Sidewall (4-6'), 7 N Sidewall (6-7'), 7 Bottom (10-11') indicated that TMBs were detected below the Tier I Commercial III RBSLs. However, TMBs for soil samples 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), and 8 N End (2-3') were detected above the Tier I Commercial III Drinking Water RBSL.

Various PNAs for soil samples 5 N Sidewall (4-6'), 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), 7 N Sidewall (6-7'), 7 Bottom (10-11'), 8 N End (2-3'), and 8 N End (10-11') were detected below the Tier I Commercial III RBSLs. Naphthalene and 2-methylnaphthalene were detected above the Tier I Commercial III Drinking Water RBSL for soil samples 7 N Sidewall (2-3') and 8 N End (2-3'). Soil analytical and soil sample locations are presented in Table 2b and on Figure 3, respectively.

Engine Oil and Gasoline Reserve UST Excavation Area

On December 20 and 23, 1999, seventeen soil verification samples were collected in the vicinity of the two engine oil reserve USTs (Tank No. 9 and 10), the gasoline reserve UST (Tank No. 19), and the associated UST piping. These soil samples are denoted as 9 E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18'), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 E Bottom (14'), 10 W Bottom (14'), 10 E Sidewall (6'), 10 W Sidewall (8'), Pipe Run (3'), 19 E Bottom (14'), 19 W Bottom (14'), 19 E Sidewall (8'), 19 W Sidewall (8'), 19 NE Sidewall (8.5'), and 19 NW Sidewall (9') on Figure 5. Laboratory results for soil samples E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18'), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 E Bottom (14'), 10 W

Sidewall (8'), 19 E Bottom (14'), 19 W Bottom (14'), 19 E Sidewall (8'), 19 W Sidewall (8'), 19 NE Sidewall (8.5'), and 19 NW Sidewall (9') were detected below the Statewide Default Background Level for lead. For soil samples 10 W Bottom (14'), 10 E Sidewall (6'), and Pipe Run (3'), lead was detected above the Tier I Commercial III Drinking Water RBSL.

Various PNAs were detected below the Tier I Commercial III RBSLs for soil samples 9 E Sidewall (8'), 9 W Sidewall (10'), 10 W Bottom (14'), 10 E Sidewall (6'), Pipe Run (3'), 19 E Sidewall (8'), and 19 NE Sidewall (8.5'). In addition, various VOCs were detected below the Tier I Commercial III RBSLs for soil samples E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18"), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 W Bottom (14'), 10 E Sidewall (6'), 10 W Sidewall (8'), Pipe Run (3'), 19 E Sidewall (8'), and 19 NW Sidewall (9'). However, the following VOCs were detected above the Tier I Commercial III Drinking Water RBSL: benzene (from soil samples 9 E Sidewall/8', 9 W Sidewall/10', 10 W Bottom/14', 10 E Sidewall/6', 10 W Sidewall/8', and 19 E sidewall/8'), toluene (from soil samples 10 W Bottom/14' and 19 E Sidewall/8'), ethylbenzene (from soil samples 9 E Bottom/14', 9 W Bottom/14', 10 W Bottom/14', and 19 E Sidewall/8'), xylenes (from soil samples 10 W Bottom/14' and 19 E Sidewall/8'), and TMBs (from soil samples 9 W Bottom/14', 9 W Sidewall/18", 10 W Bottom/14', 10 E Sidewall/6', and 19 E Sidewall/8'). Soil analytical results and soil sample locations are presented in Table 2a and on Figure 3, respectively.

C. Describe any soil remediation or disposal activities performed to date, including the volume of soil remediated or disposed. Indicate the disposal location, and provide proof of disposal (e.g., invoices, not load tickets).

Approximately 1,020 cubic yards of impacted soil were excavated and disposed at Browning-Ferris Industries (BFI) located at Arbor Hills Landfill 10930 Six Mile Road in Northville, Michigan. Manifests are included in Attachment B.

D. Provide a site diagram which identifies the estimated horizontal and vertical extent of on-site and off-site soil contamination. Include the maximum concentrations and sample depths.

Maximum soil concentrations are presented on Figures 3, 4, and 5. Figure 3 depicts sample locations in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3), the closed-in-place gasoline aqua system UST (Tank No. 4), closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), and the closed-in-place dextron UST (Tank No. 8), and the gasoline UST (Tank No. 12). Figure 4 depicts sample locations in the vicinity of the closed-in-place waste oil UST (Tank No. 11). Figure 5 depicts sample location in the vicinity of the engine oil reserve USTs (Tank No. 9 and 10) and the gasoline reserve UST (Tank No. 19).

E. Provide an estimate of the volume of impacted soil remaining in the vadose zone.

An estimate of the volume of impacted soil remaining in the vadose zone will be determined upon completion of the proposed site investigation, as summarized in Section 5.3 C.

F. Describe steps that have been taken, or will be taken, to secure access to off-site properties, including easements and right-of-ways, to complete the delineation of the extent of the off-site impact of the release to soil. Include the names and addresses of potentially affected off-site property owners.

At this time, off-site access has not been solicited. In order to delineate the extent of the plume north of the subject property (commercial property), off-site access will be pursued.

G. Provide the schedule for completing the delineation of the extent of the off-site impact of the release to the soil.

Based on the results of the UST closure activities, the extent of the off-site impact of the release to the soil will be investigated. The scope of work and schedule for the proposed off-site plume delineation investigation are summarized in Section 5.3 C.

H. Provide a table with field screening and laboratory data showing the results of all soil sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14 (Analytical Parameters and Methods, Sample Handling, and Preservation for Petroleum Releases).

Field screening results for soil are presented in Table 1. Soil analytical data is presented in Tables 2a and 2b. The following analytical parameters were used:

Leaded Gasoline Parameters

Soil samples collected in the vicinity of the gasoline UST (Tank No. 12), the gasoline aqua system UST (Tank No. 4), and the gasoline reserve UST (Tank No. 19) were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert-butyl ether (MTBE), 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene (TMBs), 1,2-dibromoethane, 1,2-dichloroethane, naphthalene, and 2-methylnaphthalene by U.S. EPA Method 8260 and lead by U.S. EPA Method 6010 (Table 2a).

Residual Oil Parameters

Soil samples collected in the vicinity of the closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), the closed-in-place dextron UST (Tank No. 8) and the engine oil reserve USTs (Tank No. 9 and 10) were submitted for laboratory analysis of TMBs by U.S. EPA Method 8260 and PNAs by U.S. EPA Method 8310 (Table 2a).

Light Distillate Oil Parameters

Soil samples collected in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3) were submitted for laboratory analysis of BTEX and TMBs by U.S. EPA 8260 and PNAs by U.S. EPA Method 8310 (Table 2a).

Waste Oil Parameters

Soil samples collected in the vicinity of the closed-in-place waste oil UST (Tank No. 11) excavation were submitted for laboratory analysis of volatile halocarbons (includes BTEX, TMBs, 1,2-dibromoethane, 1,2-dichloroethane) by U.S. EPA Method 8260, PNAs by U.S. EPA Method 8310, PCBs by U.S. EPA Method 8082 and cadmium, chromium, and lead by U.S. EPA Method 6010 (Tables 2b and 2c).

I. Provide a table which compares the maximum remaining soil contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4 (Tier I Lookup Tables for Risk-Based Corrective Action at Leaking Underground Storage Tank Sites). If residential leaching to groundwater RBSLs are not utilized for comparison, provide an explanation.

A soil comparison table is presented in Table 3. Commercial III leaching to groundwater RBSLs were utilized based on the land use and zoning of the site.

J. Provide soil boring logs.

Soil boring logs generated during Geoprobe® drilling activities are included in Attachment A.

K. Identify any known soil contamination not related to the release and the source, if known.

Not Applicable.

3.4 GROUNDWATER CONDITIONS AND CHARACTERISTICS

A. Describe the site hydrogeology, and include: depth to groundwater and method of determination; whether the groundwater is potable and/or not in an aquifer, provide the basis for this determination (Refer to STD Operational Memorandum No. 11, Criteria to Eliminate the Potable Groundwater Pathway); whether the groundwater is currently used as a source of drinking water, either residential or municipal; whether groundwater is being used for a purpose other than drinking water; whether more than one groundwater unit is present beneath the site; depth to bottom of water-bearing layer; predominant soil type in water-bearing stratum (e.g., sand, silt); effective porosity of water-bearing stratum (in $\text{cm}^3 \text{ void}/\text{cm}^3 \text{ matrix}$), and describe how it was determined; hydraulic conductivity, and describe how it was determined; groundwater flow rate and direction; lateral component of the hydraulic gradient; hydrogeologic conditions that could influence flow direction; and magnitude and direction of the vertical component of the hydraulic gradient.

At this time, an insufficient amount of groundwater characterization data is available to appropriately compare site data to the MDEQ storage tank division (STD) Operational Memorandum No. 11 (dated August 25, 1997) to determine whether the potable water pathway can be eliminated. Therefore, in this report, site data were compared to the MDEQ Drinking Water RBSLs. As summarized in Section 5.3 C of this report, the proposed site investigation will provide the additional data necessary to characterize the groundwater and evaluate the potable groundwater pathway. The proposed site investigation will include determining the effective porosity of the water-bearing stratum, the hydraulic conductivity, the groundwater flow rate and direction, the lateral component of the hydraulic gradient, and the magnitude and direction of the vertical component of the hydraulic gradient.

Based on the results of the water well log search conducted through the MDEQ water well log division in Lansing, there is no evidence that groundwater is being used as a source of drinking water at the site or in the vicinity of the site. It is unknown whether more than one groundwater unit is present beneath the site and the depth to the bottom of the water-bearing layer is unknown. The predominant soil type encountered in the shallow perched groundwater zone was sand (fill material).

B. Attach copies of the following: boring logs, well construction diagrams, potentiometric surface map, and elevation data (USGS datum preferred), including top-of-casing, and grade elevations, and depth to groundwater.

Soil boring logs are included in Attachment A. Upon completion of the proposed site investigation (summarized in Section 5.3 C), a potentiometric surface map and an elevation data table will be submitted to the MDEQ.

C. Provide scaled maps and cross-sectional diagrams, showing the screened and/or sampling interval, which depict the extent of impact and the maximum concentrations.

Maximum groundwater concentrations, sample intervals, and cross-sectional diagrams will be prepared and submitted to the MDEQ upon completion of the proposed site investigation activities (Section 5.3 C).

D. Indicate whether more than one groundwater unit has been impacted.

More than one groundwater unit has not been encountered at the site.

E. Describe any groundwater remediation activities performed to date, including the total volume of groundwater remediated and the disposition of this groundwater.

No groundwater remediation activities were performed to date at the site.

F. Provide an indication of whether the plume currently extends off-site.

At this time, it is unknown whether the plume extends off-site. Delineation of the extent of plume will be investigated as proposed in Section 5.3 C. Results of the investigation will be presented to the MDEQ.

G. Describe steps that have been taken, or will be taken, to secure access to off-site properties, including easements and right-of-ways, for the purpose of completing the delineation of the extent of the release to groundwater, and provide the names and addresses of off-site property owners.

Verification of whether the plume extends off-site, along the northern property boundary, will be determined upon completion of the proposed site investigation activities summarized in Section 5.3 C. If the results of the site investigation indicate the plume extends off-site, then action will be taken to secure off-site access.

H. Provide the schedule for completing the delineation of the extent of the off-site impact of the release to groundwater.

Upon completion of the proposed site investigation (Section 5.3 C) and review of the results, off-site access will be pursued. Off-site delineation will begin as soon as off-site access is granted. Delineation of the plume is scheduled to be completed prior to the submittal of the Final Assessment Report for this site.

I. Provide a table with field screening and laboratory data showing the results of all groundwater sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14.

A field screening table for groundwater is not available. Laboratory analytical results for groundwater are presented in Table 4. A comparison table for maximum concentrations in groundwater to the Tier I Commercial III RBSLs is presented in Table 5.

3.5 CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA

A. Describe the evaluations conducted to determine if other environmental media have been impacted.

Not Applicable. It is not deemed necessary, at this time, for other environmental media to be investigated.

4.0 SITE CLASSIFICATION

A. Indicate the current Site Classification Level, in accordance with STD Operational Memorandum No. 5, Leaking Underground Storage Tank (LUST) Site Classification System.

In accordance with the STD Operational Memorandum No. 5, LUST Site Classification System, the current site classification level is Class 3.

B. Provide a justification for this classification. Identify the current conditions that are the basis of the classification, and dates that the prescribed initial response actions were implemented.

This classification is appropriate based on soil concentrations detected above the MDEQ Tier I Commercial III Drinking Water RBSLs. Response actions were implemented on December 20, 1999.

5.0 RESULTS OF THE RBCA EVALUATION

5.1 EXPOSURE PATHWAY CHARACTERIZATION

A. Identify and describe the potentially applicable Exposure Scenarios:

<i>Exposure Scenarios</i>	<i>Exposure Pathway Characterization</i>
<i>Potential Source(s)</i>	- Impacted Soils - Dissolved Groundwater Plume
<i>Potential Transport Mechanism(s)</i>	- Volatilization and Atmospheric Dispersion - Volatilization and Enclosed-Space Accumulation - Utility Corridors - Leaching and Groundwater Transport
<i>Potential Exposure Route(s)</i>	- Soil Ingestion - Direct Contact of Soil with Skin - Inhalation of Volatiles - Direct Contact with Groundwater
<i>Potential Receptor(s)</i>	- Construction Worker - Commercial Worker - Structures - Utilities

Exposure pathways for groundwater will be evaluated during the proposed site investigation activities (see Section 5.3 C). Upon completion of the investigation, results will be presented to the MDEQ.

B. List each possible exposure pathways for each land use, and sensitive habitat for the site. Provide an explanation for eliminating any pathways.

Residential Exposure Pathways: The subject property land use and zoning is commercial. No residential construction exists on, near, or will be approved for, this location. No residential receptors are known to exist; therefore, this pathway is incomplete.

Commercial Exposure Pathways: The most plausible potential commercial exposure pathway for the site is direct contact with soil or groundwater during construction activities such as excavation, utility repair, etc.

Industrial Exposure Pathways: No industrial receptors are known to exist; therefore, the pathway is incomplete.

Sensitive Habitat Exposure Pathways: No sensitive habitat receptors are known to exist; therefore, the pathway is incomplete.

5.2 OPTIONAL TIER II EVALUATION

A. Indicate whether a site-specific Tier II or evaluation has been conducted for this site.

At this time, a site-specific Tier II evaluation is not necessary. Therefore, it has not been conducted for this site.

B. If applicable, identify and justify where alternate assumptions or site-specific information were used in place of the default assumptions as defined in the USTD Operational Memorandum No. 4.

Not applicable.

C. Provide the calculations and reference citations supporting the development of the relevant Tier II SSTLs.

Not applicable.

D. Provide a table which compares the maximum remaining contaminant concentrations for each required parameter for all media to the appropriate RBSLs (as provided in the STD Operational Memorandum No. 4), and the calculated SSTLs. Identify all applicable land use scenarios, and indicate whether or not there is an exceedance of the RBSLs or the SSTLs.

Not applicable.

5.3 PROPOSED FOLLOW-UP ACTIVITIES

A. Based on the results of the Tier I or Tier II evaluation, indicate the follow-up activities proposed for the site (e.g., site closure interim corrective action with subsequent reevaluation; final corrective action to achieve Tier I RBSLs or Tier II SSTLs; or perform further site-specific Tier II or Tier III evaluation to establish alternative SSTLs that meet the target risk goals).

The proposed interim corrective actions will initially begin with an on-site investigation to delineate soil and groundwater impact and determine the groundwater characteristics and conditions at the site. In addition, the on-site investigation will provide data to determine whether the plume extends off-site. If results indicate that the plume extends off-site, off-site access will be pursued. Upon approval of off-site access, an investigation will be conducted off-site to delineate the extent of the plume and evaluate off-site conditions. Results of the proposed investigation will be presented in the Final Assessment Report (FAR).

B. Provide justification for the option chosen.

Based on the results of the soil verification samples collected during UST closure activities, the extent of soil and groundwater impact and the groundwater conditions at the site have not been completely defined in order to evaluate the appropriate remedial action or closure options for the site. Therefore, site conditions will be further evaluated from data collected during the proposed site investigation activities (see Section 5.3 C). As indicated in Section 5.3 A, the results of the proposed site investigation will be presented in the FAR.

C. Provide a Work Plan and implementation schedule that describes the proposed site characterization activities to be performed to determine the horizontal and vertical extent of contamination. Include a scaled site map depicting proposed sampling locations.

Purpose

The purpose of this proposed site investigation is to present sufficient data to define the extent of soil and groundwater impact identified during the UST closure activities. In addition, this proposed site investigation will provide data to determine the characteristics and conditions of the soil and groundwater and to evaluate the potential exposure pathways. The proposed site investigation activities are summarized in detail below.

Drilling and Sampling Activities

Prior to conducting drilling activities, underground utilities will be located and documented. In addition, the City of Detroit Water & Sewage Department will be contacted for any available maps depicting the location and depth of buried utility corridors.

To adequately define the extent of soil and groundwater impact at the site, a total of seventeen soil borings are proposed to be advanced. Proposed boring locations are presented on Figures 6A and 6B. The location and number of borings selected was established based on the analytical results from samples collected during the UST closure activities. The final locations of these borings may be altered due to conditions encountered in the field during drilling activities.

Proposed soil borings will be advanced using a Geoprobe® truck-mounted drill rig. Geoprobe® drilling will be performed using two-inch stainless steel probes that will be hydraulically driven. Soil samples will be collected continuously using a macro core sampling device, which provides a four-foot long sample encapsulated in a clear acetate sleeve. Soil borings will be advanced to a maximum depth of 20 feet bg. However, if significant contamination is present at this depth, the borings will be advanced beyond 20 feet bg to determine the approximate vertical extent of contamination.

Upon retrieval to the surface, soil samples will be visually inspected, classified geologically, and field screened with an organic vapor meter (OVM) equipped with a photoionization detector (PID). The soil samples exhibiting the maximum visual, olfactory, or PID evidence of contamination from each boring will be selected for laboratory analysis. If all soil samples from a soil boring exhibit minimal visual, olfactory, or PID evidence of contamination, then the soil sample collected approximately two to four feet above the water table will be selected for analysis. In addition, the boring terminus sample will be collected to define the approximate vertical extent of contamination.

Soil samples collected for laboratory analysis will be preserved with methanol, labeled, and stored on ice in a cooler. Proper chain-of-custody procedures will be followed. Soil samples will be submitted to the laboratory for the following analyzes and parameters:

- In the vicinity of the closed-in-place waste oil UST (Tank No. 5), soil samples will be submitted for laboratory analysis of BTEX, TMBs, 1,2-dichloroethane, 1,2-dibromoethane, and volatile halocarbons by U.S. EPA Method 8260, PNAs by U.S. EPA Method 8310, cadmium, chromium, and lead by U.S. EPA Method 6010, and PCBs by U.S. EPA Method 8082. These parameters are required by the MDEQ for the previous storage of waste oil at a site.
- In the vicinity of the former gasoline UST (Tank No. 12), the former gasoline reserve UST (Tank No. 19), the closed-in-place gasoline aqua system UST (Tank No. 4), the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3), and the former aqua system trap USTs (Tank No. 13, 14, 16, 17, and 18), soil samples will be submitted for laboratory analysis of BTEX, MTBE, TMBs, 1,2-dichloroethane, 1,2-dibromoethane, naphthalene, and 2-methylnaphthalene by U.S. EPA Method 8260, and PNAs by U.S. EPA Method 8310. These parameters are required by the MDEQ for the previous storage of gasoline and diesel.

- In the vicinity of the closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), and the closed-in-place dextron UST (Tank No. 8), soil samples will be submitted for laboratory analysis of TMBs by U.S. EPA Method 8260 and PNAs by U.S. EPA Method 8310. These parameters are required by the MDEQ for the previous storage of residual oils at a site.

Field Standard Operating Procedures (SOPs) for Geoprobe® and HSA drilling, Quality Assurance/Quality Control (QA/QC) sampling, decontamination procedures, and health and safety plans are included in Attachment C.

Monitoring Well Installation

Based on the soil and groundwater conditions encountered during Geoprobe® drilling, approximately eight of the seventeen proposed soil borings will be completed as permanent monitoring wells (Figures 6A and 6B) to monitor groundwater concentrations at the site. In borings not completed as permanent monitor wells, a groundwater sample will be collected from the boring prior to abandonment. The monitor wells will be installed using a hollow stem auger (HSA) drill-rig. Drilling will be performed using a ¼ -inch inner diameter (ID) HSA.

Monitor wells will be constructed of two-inch ID polyvinyl chloride (PVC) materials, with a screen length of five feet. Screens will be of the machine slotted type, and the slot size will be 0.010 inches. Wells will be installed such that the screened interval is straddling the water table. The approximate depth will be determined in the field during drilling. The wells will be sealed with expandable locking caps and finished with flush mounted protective covers set in concrete.

The annular space around the wells will be packed with silica filter sand from the bottom of the screen to approximately one foot above the screen, followed by a one-foot thick bentonite seal. The remaining annular space will be filled with either bentonite chips or cement grout to the concrete pad. Locking water tight well caps will be placed on each well and flush-mounted, traffic-rated, steel protective covers will be set in concrete and installed to prevent unauthorized access and for the protection of the monitoring well.

After the wells are installed, each well will be developed by a combination of appropriate techniques, including bailing, surging, jetting, or pumping to ensure maximum communication with the aquifer across the screened interval. Each well (top of casing) will be surveyed to the nearest 0.01 foot to allow for groundwater flow direction calculations.

SOPs for monitoring well installation, well development, and well purging are included in Attachment C.

Groundwater Sampling

Groundwater samples will be collected from the newly installed monitor wells a minimum of 24 hours after development. Upon opening the each monitor well cap, the depth to water will be measured from the top of each well casing and recorded to the nearest 0.01 foot. This will provide data for calculating the volume of water to purge and for calculating the groundwater flow direction and gradient.

Prior to collecting groundwater samples from each of the newly installed monitor wells, three wetted-casing volumes of groundwater will be purged from the well. The purging will remove stagnant water from the well casing, ensuring that the sample is representative of the groundwater at the screened interval of the well. After purging, a groundwater sample will be collected using a new disposable polyethylene bailer with new bailer cord. Groundwater samples will be placed in appropriately preserved sample containers provided by the laboratory. Samples collected for dissolved lead analysis will be field-filtered through a 0.45-micron filter prior to collection. Once groundwater samples have been collected, samples will be stored on ice in a cooler and submitted to the laboratory. Proper chain-of-custody procedures will be followed. Groundwater samples will be submitted for the same analytical parameters as the soil samples, described above.

SOPs for groundwater sampling and QA/QC control sampling are included in Attachment C.

Hydrogeologic Characteristics Determination

The newly installed monitor wells will be surveyed to provide data for calculating the groundwater elevation for determining the groundwater flow direction. Survey measurements will be obtained from the north side of the top of each well casing. An assigned elevation of 100 feet will be used as a temporary benchmark. The survey data will be combined with the static water level measurements obtained during the groundwater sampling activities. A table presenting the groundwater elevation and a groundwater contour map will be presented to the MDEQ in a Quarterly Groundwater Monitoring Report.

Hydraulic conductivity testing will be performed on select monitor wells to characterize the hydraulic properties of the site's water-bearing zone. The hydraulic conductivity will be calculated with an equation based on the research of Bouwer and Rice, 1976 (Bouwer and Rice). Other hydrogeologic parameters, such as groundwater velocity and hydraulic gradient, will also be determined.

Off-Site Plume Delineation Investigation

If results from the proposed on-site investigation indicate that the plume extends off-site onto the Grand Trunk Railroad property (located southeast of the site), then off-site access will be pursued. Upon approval of off-site access, the extent of the plume will be investigated. The number of soil borings/monitoring wells to be installed off-site will be based on the results of the on-site investigation.

Report Preparation

Groundwater sampling from the newly installed monitor wells will be conducted on a quarterly basis. Results of the groundwater sampling activities will be presented to the MDEQ in a Quarterly Groundwater Monitoring Report. This report will also include groundwater elevation data and a groundwater contour map.

Results of the proposed site investigation activities will be included in a Final Assessment Report (FAR). This report will be submitted to the MDEQ and include a detailed description of the work completed at the site, an interpretation of the data, an evaluation of potential exposure pathways, and a feasibility analysis. If the investigation and quarterly groundwater monitoring results indicate that the site can be closed without further remediation and/or monitoring, a Closure Report will be submitted in lieu of the FAR.

Schedule

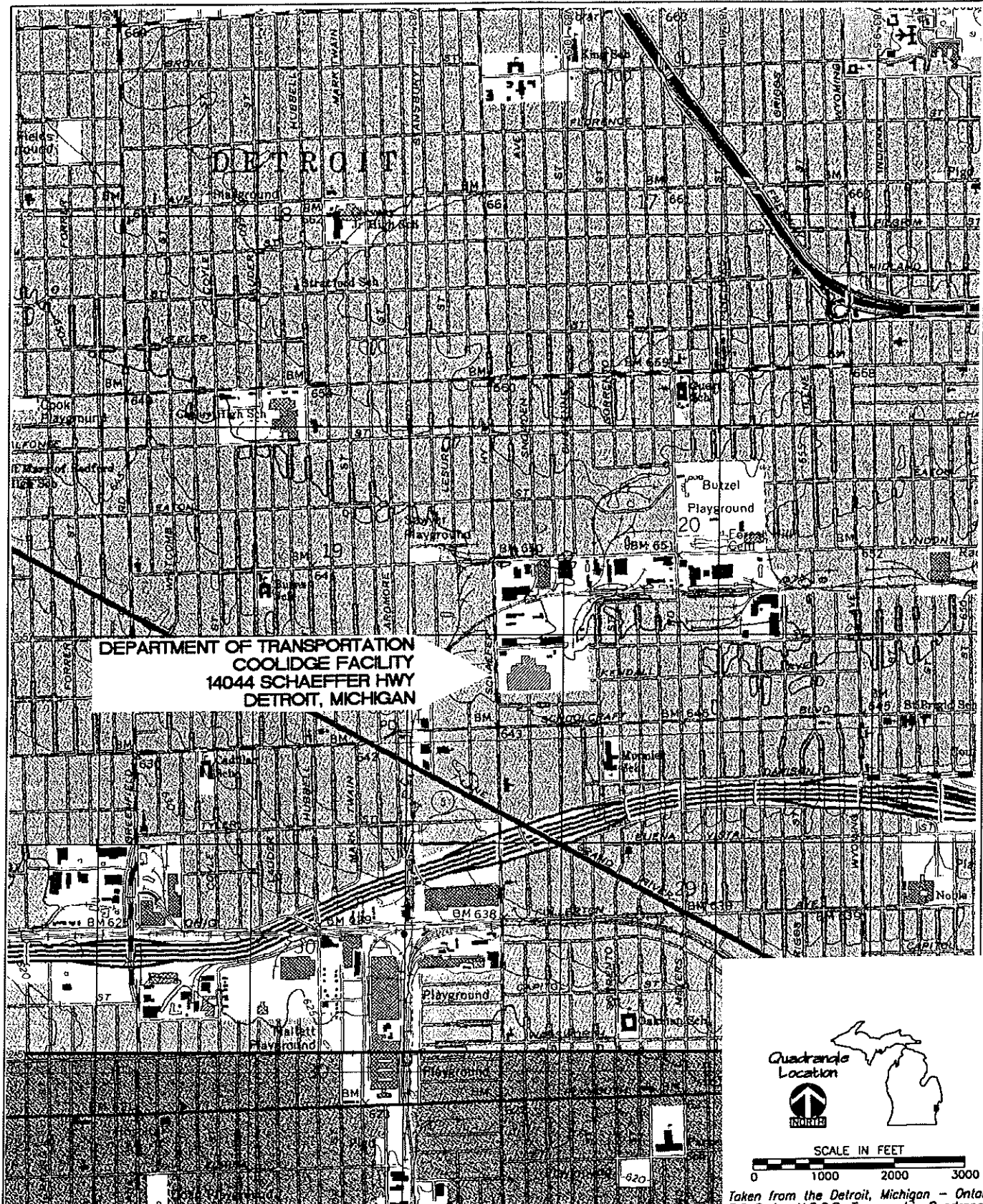
The proposed on-site investigation activities are tentatively scheduled to begin in May 2000. Based on the results of the on-site investigation, verification of whether the plume extends off-site will be determined. If results indicate that the plume extends off-site, then off-site plume delineation will be conducted. Groundwater concentrations will be monitored on a quarterly basis after initial installation and sampling. Prior to initiating field activities, the MDEQ will be notified a minimum of 48-hours.

Since the FAR is required to be submitted to the MDEQ-STD within 365 days after a release has been discovered, a FAR for this site will be prepared and submitted to the MDEQ-STD in December 2000.

9 / 19 / 19

10⁰⁰

FIGURES



02/28/00 DVS

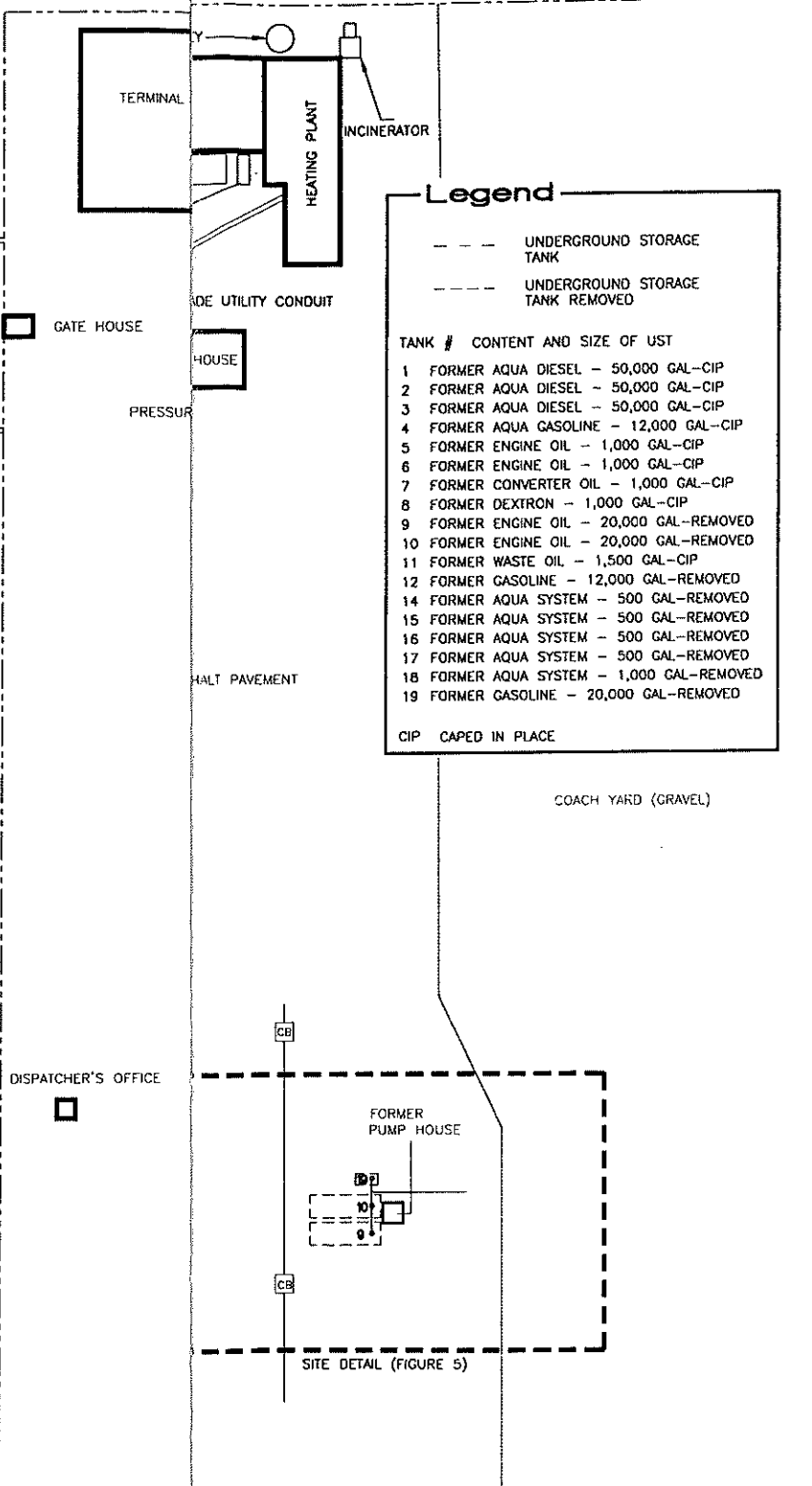


FIGURE 1
AREA LOCATION MAP
DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
14044 SCHAEFFER HWY
DETROIT, MICHIGAN



COMMERCIAL PROPERTY (VACANT BODY SHOP)

SCHAEFFER HIGHWAY



Legend

- - - UNDERGROUND STORAGE TANK
- - - UNDERGROUND STORAGE TANK REMOVED

TANK # CONTENT AND SIZE OF UST

- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
- 5 FORMER ENGINE OIL - 1,000 GAL-CIP
- 6 FORMER ENGINE OIL - 1,000 GAL-CIP
- 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
- 8 FORMER DEXTRON - 1,000 GAL-CIP
- 9 FORMER ENGINE OIL - 20,000 GAL-REMOVED
- 10 FORMER ENGINE OIL - 20,000 GAL-REMOVED
- 11 FORMER WASTE OIL - 1,500 GAL-CIP
- 12 FORMER GASOLINE - 12,000 GAL-REMOVED
- 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 15 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
- 19 FORMER GASOLINE - 20,000 GAL-REMOVED

CIP CAPED IN PLACE

COACH YARD (GRAVEL)

DISPATCHER'S OFFICE

FORMER PUMP HOUSE

SITE DETAIL (FIGURE 5)

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO BE



FIGURE 2
SITE SKETCH
 COOLIDGE FACILITY
 DETROIT DEPARTMENT OF TRANSPORTATION
 14044 SCHAEFFER HWY.
 DETROIT, MICHIGAN



12 E Side

Benzene	
Ethylbenzene	
Toluene	
Xylenes	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Naphthalene	
2-Methylnaphthalene	

12 N Sidewall 6'

	µg/kg
Benzene	15,000
Ethylbenzene	22,000
Toluene	3,200
Xylenes	130,000
1,2,4-Trimethylbenzene	140,000
1,3,5-Trimethylbenzene	49,000
Naphthalene	220,000
2-Methylnaphthalene	450,000

12 W Sidewall 6'

	µg/kg
Benzene	13,000
Ethylbenzene	24,000
Toluene	4,800
Xylenes	150,000
1,2,4-Trimethylbenzene	180,000
1,3,5-Trimethylbenzene	68,000
Naphthalene	110,000
2-Methylnaphthalene	320,000

12 S Sidewall 6'

	µg/kg
Benzene	190
Ethylbenzene	420
Toluene	330
Xylenes	2,600
1,2,4-Trimethylbenzene	3,900
1,3,5-Trimethylbenzene	1,500
Naphthalene	1,100
2-Methylnaphthalene	2,400

12 SE Sidewall 4'

	µg/kg
Benzene	18,00
Ethylbenzene	15,00
Toluene	13,00
Xylenes	47,00
1,2,4-Trimethylbenzene	39,00
1,3,5-Trimethylbenzene	21,00
Naphthalene	27,00
2-Methylnaphthalene	21,00

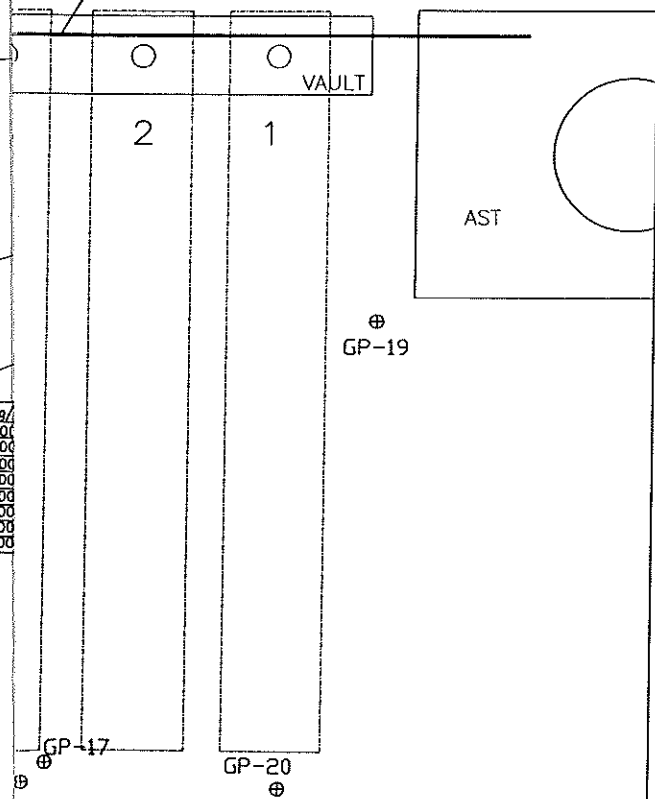
Legend

- SOIL SAMPLE LOCATION
- ⊕ SOIL BORING LOCATION

- LIMITS OF EXCAVATION
- UNDERGROUND STORAGE TANK
- - - UNDERGROUND STORAGE TANK REMOVED

- TANK # CONTENT AND SIZE OF UST
- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
 - 5 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 6 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
 - 8 FORMER DEXTRON - 1,000 GAL-CIP
 - 12 FORMER GASOLINE - 12,000 GAL-REMOVED
 - 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED

AST PIPING TO PUMP HOUSE



NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACT



A0002004/RM9999-2 DWN:GH MOD:03-16-00 DVS CK:GT

FIGURE 3
 K No. 1,2,3,4,5,6,7,8,12,13,14,16,17 AND 18
 IT DEPARTMENT OF TRANSPORTAITON
 14044 SCHAFFER HIGHWAY
 DETROIT, MICHIGAN



6" HIGH PRESSURE FIRE MAIN

GP-10
⊕

GP-8
⊕



GP-9
⊕

TIN BOTTOM 10-11' $\mu\text{g}/\text{kg}$
ALL VOC's ND

TIS BOTTOM 10-11' $\mu\text{g}/\text{kg}$
ALL VOC's ND

SERVICE GARAGE

Legend

- ⊕ SOIL BORING LOCATION
- — LIMITS OF EXCAVATION
- - - UNDERGROUND STORAGE TANK

TANK #	CONTENT AND SIZE OF UST
11	FORMER WASTE OIL - 1,500 GAL -CIP
CIP	CLOSED IN PLACE

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE



APPROXIMATE SCALE IN FEET



A0002004/RM99999-2 DVS REV: 03/01/00 DVS CHK: 000

FIGURE 4
SAMPLE LOCATIONS FOR TANK NO. 11
COOLIDGE FACILITY
DETROIT DEPARTMENT OF TRANSPORTATION
14044 SCHAEFFER HWY.
DETROIT, MICHIGAN



10 W Bottom 8'	µg/kg
Benzene	4,000
Ethylbenzene	8,000
Toluene	18,000
Xylenes	35,000
1,2,4-Trimethylbenzene	18,000
1,3,5-Trimethylbenzene	6,500

10 W Sidewall 8'	µg/kg
Benzene	190
Ethylbenzene	130
1,2,4-Trimethylbenzene	95
Naphthalene	1,300
2-Methylnaphthalene	4,500

9 W Bottom	µg/kg
Benzene	540
Ethylbenzene	2,800
Toluene	510
Xylenes	9,200
1,2,4-Trimethylbenzene	7,200
1,3,5-Trimethylbenzene	2,400
Naphthalene	3,100
2-Methylnaphthalene	17,000

9 W Sidewall 18'	µg/kg
Ethylbenzene	200
Toluene	140
1,2,4-Trimethylbenzene	2,100
1,3,5-Trimethylbenzene	930
Naphthalene	4,100
2-Methylnaphthalene	10,000

9 SW Sidewall 4'	µg/kg
Benzene	63
Ethylbenzene	100

19 NW Sidewall 9'	µg/kg
1,2,4-Trimethylbenzene	110

19 E Sidewall 8'	µg/kg
Benzene	6,500
Ethylbenzene	16,000
Toluene	53,000
Xylenes	140,000
1,2,4-Trimethylbenzene	61,000
1,3,5-Trimethylbenzene	16,000
Naphthalene	21,000
2-Methylnaphthalene	11,000

10 E Sidewall 6'	µg/kg
Benzene	380
Ethylbenzene	1,400
Toluene	1,200
Xylenes	5,600
1,2,4-Trimethylbenzene	3,100
1,3,5-Trimethylbenzene	1,600
Naphthalene	3,300
2-Methylnaphthalene	7,300

9 SE Sidewall 10'	µg/kg
Benzene	71
Ethylbenzene	620
Toluene	620
Xylenes	2,900
1,2,4-Trimethylbenzene	1,700
1,3,5-Trimethylbenzene	610
Naphthalene	1,800
2-Methylnaphthalene	9,300

9 E Bottom	µg/kg
Benzene	2,000
Ethylbenzene	2,200
Toluene	440
Xylenes	1,900
1,2,4-Trimethylbenzene	450
1,3,5-Trimethylbenzene	280
Naphthalene	2,600
2-Methylnaphthalene	15,000

9 E Sidewall 8'	µg/kg
Benzene	76
Ethylbenzene	370
Toluene	230
Xylenes	2,000
1,2,4-Trimethylbenzene	1,600
1,3,5-Trimethylbenzene	650
Naphthalene	1,100
2-Methylnaphthalene	4,700

Legend

- SOIL SAMPLE LOCATION
- - - - - LIMITS OF EXCAVATION
- UNDERGROUND STORAGE TANK

TANK #	CONTENT AND SIZE OF UST
9	FORMER ENGINE OIL - 20,000 GAL
10	FORMER ENGINE OIL - 20,000 GAL
19	FORMER GASOLINE - 20,000 GAL

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE



APPROXIMATE SCALE IN FEET



FIGURE 5
 SAMPLE LOCATIONS FOR TANK NO. 9, 10, AND 19
 COOLIDGE FACILITY
 DETROIT DEPARTMENT OF TRANSPORTATION
 14044 SCHAEFFER HWY.
 DETROIT, MICHIGAN

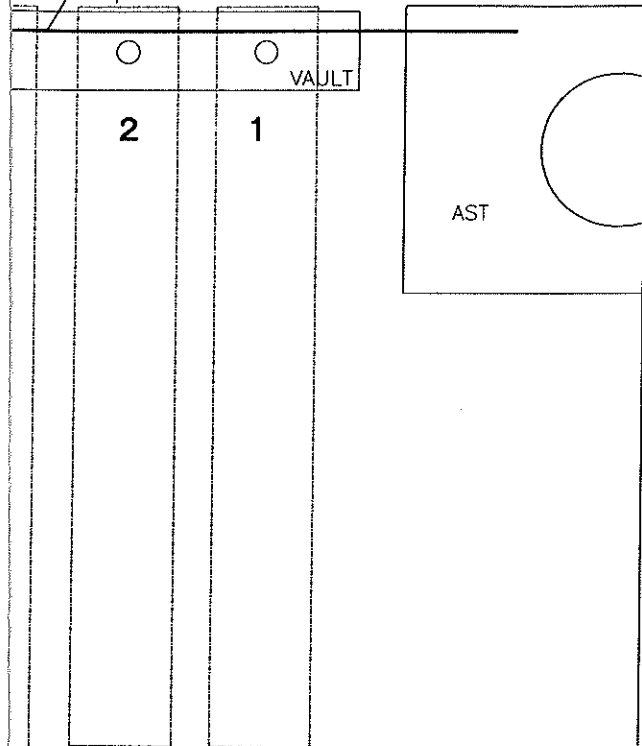


Legend

- PROPOSED SOIL BORING
- ⊕ PROPOSED SOIL BORING/
MONITOR WELL LOCATION
- UNDERGROUND STORAGE
TANK
- - - UNDERGROUND STORAGE
TANK REMOVED

TANK #	CONTENT AND SIZE OF UST
1	FORMER AQUA DIESEL - 50,000 GAL-CIP
2	FORMER AQUA DIESEL - 50,000 GAL-CIP
3	FORMER AQUA DIESEL - 50,000 GAL-CIP
4	FORMER AQUA GASOLINE - 12,000 GAL-CIP
5	FORMER ENGINE OIL - 1,000 GAL-CIP
6	FORMER ENGINE OIL - 1,000 GAL-CIP
7	FORMER CONVERTER OIL - 1,000 GAL-CIP
8	FORMER DEXTRON - 1,000 GAL-CIP
12	FORMER GASOLINE - 12,000 GAL-REMOVED
13	FORMER AQUA SYSTEM - 500 GAL-REMOVED
14	FORMER AQUA SYSTEM - 500 GAL-REMOVED
16	FORMER AQUA SYSTEM - 500 GAL-REMOVED
17	FORMER AQUA SYSTEM - 500 GAL-REMOVED
18	FORMER AQUA SYSTEM - 1,000 GAL-REMOVED

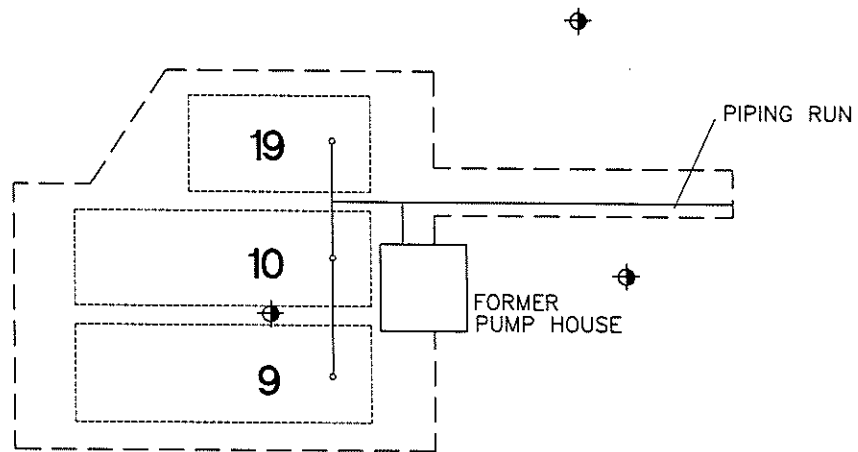
AST PIPING TO PUMP HOUSE




NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACT



FIGURE 6A
OIL BORING/MONITOR WELL LOCATIONS
BIT DEPARTMENT OF TRANSPORTATION
14044 SCHAFFER HIGHWAY
DETROIT, MICHIGAN



Legend

 PROPOSED SOIL BORING/
MONITOR WELL LOCATION

 LIMITS OF EXCAVATION

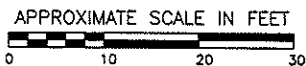
 UNDERGROUND STORAGE
TANK

TANK #	CONTENT AND SIZE OF UST
9	FORMER ENGINE OIL - 20,000 GAL
10	FORMER ENGINE OIL - 20,000 GAL
19	FORMER GASOLINE - 20,000 GAL

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE



FIGURE 6B
PROPOSED SOIL BORING/MONITOR WELL LOCATIONS
COOLIDGE FACILITY
DETROIT DEPARTMENT OF TRANSPORTATION
14044 SCHAEFFER HWY.
DETROIT, MICHIGAN



TABLES

Table 1
Field Screening Results For Soil
Detroit Department of Transportation - Coolidge Facility
14044 Schaefer Hwy.
Detroit, Michigan

Sample ID	Collection Date	PID Reading* (ppmv)
GP-15 (10-12')	1/5/00	9
GP-15 (13-15')	1/5/00	1
GP-16 (7-8')	1/5/00	25
GP-16 (10-12')	1/5/00	6
GP-18 (6-7')	1/5/00	80
GP-18 (6-7') DUP	1/5/00	80
GP-18 (12-14')	1/5/00	5
GP-19 (5-7')	1/5/00	0
GP-19 (15-16')	1/5/00	0
GP-20 (7-8')	1/5/00	0
GP-20 (aqueous)	1/5/00	NA
5 BOTTOM (10-11')	12/30/99	40
5N SIDEWALL (4-6')	12/30/99	20
6 BOTTOM (9-11')	12/30/99	70
6N SIDEWALL (4-6')	12/30/99	70
7 BOTTOM (10-11')	12/30/99	140
7N SIDEWALL (2-3')	12/30/99	40
7N SIDEWALL (6-7')	12/30/99	120
8N BOTTOM (10-11')	1/5/00	30
8N SIDEWALL (2-3')	1/5/00	125
9E BOTTOM (14')	12/20/99	NA
9W BOTTOM (14')	12/20/99	NA
9E SIDEWALL (8')	12/20/99	NA
9W SIDEWALL (18")	12/20/99	NA
SE SIDEWALL (10')	12/20/99	NA
SW SIDEWALL (4')	12/20/99	NA
10E BOTTOM (14')	12/20/99	NA
10W BOTTOM (14')	12/20/99	NA
10E SIDEWALL (6')	12/20/99	NA
10W SIDEWALL (4')	12/20/99	NA
11S BOTTOM (11-12')	12/30/99	0
11S SIDEWALL (7-8')	12/30/99	0
11N BOTTOM (10-11')	12/30/99	0
11N SIDEWALL (5-6')	12/30/99	1
11W SIDEWALL (6-7')	12/30/99	0

Sample ID	Collection Date	PID Reading* (ppmv)
12 BOTTOM (aqueous)	12/21/99	NA
12S SIDEWALL (6')	12/21/99	70
12N SIDEWALL (6')	12/21/99	280
12E SIDEWALL (6')	12/21/99	200
12E SIDEWALL (6') DUP	12/21/99	200
12W SIDEWALL (6')	12/21/99	260
12SE SIDEWALL (4')	12/21/99	310
14S BOTTOM	12/29/99	30
14N BOTTOM	12/29/99	ND
14S SIDEWALL (3-4')	12/30/99	150
14W SIDEWALL (3-4')	12/30/99	180
15S BOTTOM	12/29/99	50
15N BOTTOM	12/29/99	3
16S BOTTOM	12/29/99	8
16N BOTTOM	12/29/99	90
16S SIDEWALL (4-6')	12/30/99	100
16N SIDEWALL (2-3')	12/30/99	NA
16N SIDEWALL (2-3') DUP	12/30/99	NA
17S BOTTOM	12/29/99	55
17N BOTTOM	12/29/99	75
18E BOTTOM	12/29/99	0
18W BOTTOM	12/29/99	1
18W BOTTOM DUP	12/29/99	1
18S SIDEWALL (6-8')	12/30/99	120
18N SIDEWALL (18")	12/30/99	70
19E BOTTOM (14')	12/23/99	NA
19W BOTTOM (14')	12/23/99	NA
19E SIDEWALL (8')	12/23/99	NA
19W SIDEWALL (8')	12/23/99	NA
19NE SIDEWALL (8.5')	12/23/99	NA
19NW SIDEWALL (9')	12/23/99	NA
PIPE RUN	12/21/99	NA
GP-11 (5-7')	1/5/00	0
GP-11 (9-10')	1/5/00	12
GP-12 (7-8')	1/5/00	NA
GP-12 (9-10')	1/5/00	NA
GP-13 (4-5')	1/5/00	0
GP-13 (7-8')	1/5/00	0

NA =Not analyzed.

* = Readings taken with an H-Nu Instruments, Inc. model number PL 101 photo-ionizer.

ppmv = parts per million volumetric.

Table 2a - Page 1 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	SN SIDEWALL (GP-5) 4-6' (µg/kg)	5 BOTTOM (GP-5) 10-11' (µg/kg)	6N SIDEWALL (GP-6) 4-6' (µg/kg)	6 BOTTOM (GP-6) 9-11' (µg/kg)	7N SIDEWALL (GP-7) 2-3' (µg/kg)	7N SIDEWALL (GP-7) 6-7' (µg/kg)	7 BOTTOM (GP-7) 10-11' (µg/kg)	8 N END (GP-14) 2-3' (µg/kg)
Date Collected						12/30/99	12/30/99	12/30/99	12/30/99	12/30/99	12/30/99	12/30/99	1/5/00
PNAs - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	1,400	ND	8,100	2,000	480,000	1,400	3,100	170,000
Acenaphthene	NA	870,000		350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	NA	8,500		3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	ND	ND	2,900
Anthracene	NA	41,000		1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	15,000	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	ND	1,100
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	NA	720,000		1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	7,100	ND	ND	1,400
Fluorene	NA	890,000		1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	11,000	ND	ND	4,500
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	ND	ND	3,400	860	230,000	380	1,300
Phenanthrene	NA	34,000		28,000,000	150,000	23,000,000	ND	ND	980	ND	7,700	ND	6,200
Pyrene	NA	470,000		1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	20,000	ND	ND	8,700
METALS - Method 6010													
Lead (B)	21,000	1,000 (B.M)	NLV	NLV	400,000	NR	NR	NR	NR	NR	NR	NR	NR
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000		790,000(C)	36,000,000	790,000(C)	NR	NR	NR	NR	NR	NR	NR
1,2-Dibromoethane	**	**	**	**	**	**	NR	NR	NR	NR	NR	NR	NR
Methyl tert-butyl ether (MTBE)	NA	800		6,000,000(C)	31,000,000	6,000,000(C)	NR	NR	NR	NR	NR	NR	NR
Benzene	NA	100		8,400	45,000	400,000(C)	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NA	1,500		140,000(C)	11,000,000	140,000(C)	NR	NR	NR	NR	NR	NR	NR
Toluene	NA	16,000		250,000(C)	3,300,000	250,000(C)	NR	NR	NR	NR	NR	NR	NR
Xylenes	NA	5,600		150,000(C)	54,000,000	150,000(C)	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trimethylbenzene	NA	2,100		110,000(C)	25,000,000	110,000(C)	780	7,700	5,600	93,000	220	1,800	130,000
1,3,5-Trimethylbenzene	NA	1,800		94,000(C)	19,000,000	94,000(C)	210	2,400	1,700	51,000	83	520	44,000
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	NR	NR	NR	NR	NR	NR	NR
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	230,000,000	NR	NR	NR	NR	NR	NR	NR

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 2 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (YSIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (YSIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	8 N END (GP-14) 10-11' (µg/kg)	9E BOTTOM 14' (µg/kg)	9W BOTTOM 14' (µg/kg)	9E SIDEWALL 8' (µg/kg)	9W SIDEWALL 18" (µg/kg)	9SE SIDEWALL 10' (µg/kg)	9SW SIDEWALL 4' (µg/kg)	10E BOTTOM 14' (µg/kg)
Date Collected						1/5/00	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99
PNAs - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	1,100	ND	ND	650	5,800	ND	ND	ND
Acenaphthene	NA	870,000		350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	NA	8,500		3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	ND	ND	ND
Anthracene	NA	41,000		1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	1,400	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	ND	1,200	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	ND	1,200	ND	ND	ND
Dibenzo(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	NA	720,000		1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	630	ND	ND	ND
Fluorene	NA	890,000		1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	830	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	590	ND	ND	470	2,200	ND	ND
Phenanthrene	NA	34,000		28,000,000	150,000	23,000,000	ND	ND	ND	2,200	ND	ND	ND
Pyrene	NA	470,000		1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	3,800	ND	ND	ND
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	NR	8,100	6,900	7,700	11,000	11,000	7,500	9,300
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000		790,000(C)	36,000,000	790,000(C)	NR	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	**	NR	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800		6,000,000(C)	31,000,000	6,000,000(C)	NR	ND	ND	ND	ND	ND	ND
Benzene	NA	100		8,400	45,000	400,000(C)	NR	2,000	540	76	71	68	ND
Ethylbenzene	NA	1,500		140,000(C)	11,000,000	140,000(C)	NR	2,200	2,800	370	200	620	100
Toluene	NA	16,000		250,000(C)	3,300,000	250,000(C)	NR	440	510	230	140	620	ND
Xylenes	NA	5,600		150,000(C)	54,000,000	150,000(C)	NR	1,900	9,200	2,000	ND	2,900	ND
1,2,4-Trimethylbenzene	NA	2,100		110,000(C)	25,000,000	110,000(C)	110	450	7,200	1,600	2,100	1,700	ND
1,3,5-Trimethylbenzene	NA	1,800		94,000(C)	19,000,000	94,000(C)	ND	260	2,400	650	930	610	ND
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	NR	2,600	3,100	1,100	4,100	1,800	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	NR	15,000	17,000	4,700	10,000	9,300	ND	ND

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 3 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	10W BOTTOM 14' (µg/kg)	10E SIDEWALL 6' (µg/kg)	10W SIDEWALL 8' (µg/kg)	PIPE RUN 3' (µg/kg)	12S SIDEWALL 6' (µg/kg)	12N SIDEWALL 6' (µg/kg)	12E SIDEWALL 6' (µg/kg)	12E SIDEWALL 6' DUP (µg/kg)
Date Collected						12/20/99	12/20/99	12/20/99	12/21/99	12/21/99	12/21/99	12/21/99	12/21/99
PNAs - Method 8310:													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	480	1,600	ND	15,000	NR	NR	NR	NR
Acenaphthene	NA	870,000		350,000,000	97,000,000	1,000,000,000(D)	ND	ND	17,000	NR	NR	NR	NR
Acenaphthylene	NA	8,500		3,000,000	2,700,000	23,000,000	ND	ND	ND	NR	NR	NR	NR
Anthracene	NA	41,000		1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	5,300	NR	NR	NR
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	11,000	NR	NR	NR	NR
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	19,000	NR	NR	NR	NR
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	3,300	NR	NR	NR	NR
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	4,900	NR	NR	NR	NR
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	8,400	NR	NR	NR	NR
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	16,000	NR	NR	NR	NR
Dibenzo(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	2,800	NR	NR	NR	NR
Fluoranthene	NA	720,000		1,000,000,000(D)	880,000,000	760,000,000	ND	ND	4,900	NR	NR	NR	NR
Fluorene	NA	890,000		1,000,000,000(D)	150,000,000	760,000,000	ND	ND	2,100	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	12,000	NR	NR	NR	NR
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	710	1,500	4,900	NR	NR	NR	NR
Phenanthrene	NA	34,000		28,000,000	150,000	23,000,000	ND	ND	11,000	NR	NR	NR	NR
Pyrene	NA	470,000		1,000,000,000(D)	770,000,000	470,000,000	ND	410	16,000	NR	NR	NR	NR
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	71,000	59,000	7,200	39,000	6,200	18,000	3,900	NR
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000		790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800		6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100		8,400	45,000	400,000(C)	4,000	380	190	ND	190	15,000	2,400
Ethylbenzene	NA	1,500		140,000(C)	11,000,000	140,000(C)	8,000	1,400	130	390	420	22,000	2,600
Toluene	NA	16,000		250,000(C)	3,300,000	250,000(C)	18,000	1,200	ND	100	330	3,200	140
Xylenes	NA	5,600		150,000(C)	54,000,000	150,000(C)	35,000	5,600	ND	650	2,600	130,000	5,400
1,2,4-Trimethylbenzene	NA	2,100		110,000(C)	25,000,000	110,000(C)	18,000	3,100	95	860	3,900	140,000	5,100
1,3,5-Trimethylbenzene	NA	1,800		94,000(C)	19,000,000	94,000(C)	6,500	1,600	ND	380	1,500	49,000	1,600
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	6,500	3,300	1,300	510	1,100	220,000	11,000
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	6,100	7,300	4,500	2,100	2,400	450,000	5,300	9,300

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

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 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	12W SIDEWALL 6' (µg/kg)	12SE SIDEWALL 4' (µg/kg)	13S BOTTOM 8' (µg/kg)	13N BOTTOM 8' (µg/kg)	13S SIDEWALL (GP-2) 3-4' (µg/kg)	13W SIDEWALL (GP-1) 3-4' (µg/kg)	14S BOTTOM 8' (µg/kg)	14N BOTTOM 8' (µg/kg)
Date Collected													
PNAs - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	NR	NR	ND	ND	32,000	140,000	ND	ND
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	NR	NR	ND	ND	ND	ND	ND	ND
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	NR	NR	ND	ND	ND	ND	ND	ND
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	NR	NR	ND	ND	830	1,400	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	NR	NR	ND	ND	ND	470	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	NR	NR	ND	ND	950	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	NR	NR	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	29,000,000	NR	NR	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	NR	NR	ND	ND	ND	ND	ND	ND
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	NR	NR	ND	ND	ND	920	ND	ND
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	NR	NR	ND	ND	520	4,700	ND	ND
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	NR	NR	ND	ND	9,200	59,000	ND	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	NR	NR	ND	ND	ND	ND	ND	ND
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	NR	NR	ND	ND	940	8,800	ND	ND
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	NR	NR	ND	ND	870	2,600	ND	ND
METALS - Method 6010													
Lead (B)	21,000	1,000 (B.M)	NLV	NLV	400,000	89,000	9,300	4,800	5,400	2,000	2,700	8,000	5,400
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100	8,400	45,000	400,000(C)	13,000	16,000	ND	ND	9,300	920	ND	ND
Ethylbenzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	24,000	15,000	ND	ND	11,000	6,000	ND	ND
Toluene	NA	16,000	250,000(C)	3,300,000	250,000(C)	4,800	13,000	ND	ND	250	94	ND	ND
Xylenes	NA	5,600	150,000(C)	54,000,000	150,000(C)	150,000	47,000	ND	ND	17,000	1,600	ND	ND
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	180,000	39,000	ND	ND	47,000	7,400	95	220
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	69,000	21,000	ND	ND	14,000	3,300	ND	58
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	110,000	27,000	ND	ND	65,000	35,000	3,800	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	320,000	21,000	ND	ND	200,000	12,000	2,700	ND

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 5 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (YSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	16S BOTTOM 8' (µg/kg)	16N BOTTOM 8' (µg/kg)	16S SIDEWALL (GP-3) 4-6' (µg/kg)	16N SIDEWALL (HA-1) 2-3' (µg/kg)	16N SIDEWALL (HA-1) 2-3' DUP (µg/kg)	17S BOTTOM 8' (µg/kg)	17N BOTTOM 8' (µg/kg)	18E BOTTOM 8' (µg/kg)
Date Collected						12/29/99	12/29/99	12/30/99	12/30/99	12/30/99	12/29/99	12/29/99	12/29/99
PNAs - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	53,000	32,000	NR	490	1,200	ND
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	NR	ND	ND	ND	ND
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	440	NR	ND	ND	ND	ND
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	1,200	NR	ND	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	480	NR	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	NR	ND	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	NR	ND	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	NR	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	NR	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	NR	ND	ND	ND	ND
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	NR	ND	ND	ND	ND
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	3,700	1,800	NR	ND	ND	ND
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	2,000	1,800	NR	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	NR	ND	ND	ND	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	ND	13,000	14,000	NR	430	640	ND
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	5,900	4,300	NR	ND	ND	ND
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	1,500	3,200	NR	ND	ND	ND
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	5,400	5,300	2,900	4,200	NR	5,400	6,700	5,200
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100	8,400	45,000	400,000(C)	ND	ND	5,800	ND	ND	ND	ND	ND
Ethylbenzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	2,800	2,900	3,200	ND	ND	ND
Toluene	NA	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	NA	5,600	150,000(C)	54,000,000	150,000(C)	ND	120	460	12,000	13,000	170	130	ND
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	75	590	2,400	35,000	34,000	530	370	ND
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	ND	210	390	14,000	14,000	95	ND	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	2,700	750	48,000	25,000	45,000	6,500	7,600	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	16,000	7,700	280,000	160,000	130,000	13,000	9,200	ND

B=background, as defined in Rule 289.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

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 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSTIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	18W BOTTOM 8' (µg/kg)	18W BOTTOM DUP (µg/kg)	18S SIDEWALL (GP-4) 6-8' (µg/kg)	18N SIDEWALL (HA-2) 18" (µg/kg)	19E BOTTOM 14' (µg/kg)	19W BOTTOM 14' (µg/kg)	19E SIDEWALL 8' (µg/kg)	19W SIDEWALL 8' (µg/kg)
Date Collected						12/29/99	12/29/99	12/30/99	12/30/99	12/23/99	12/23/99	12/23/99	12/23/99
PNAs - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	NR	2,800	ND	ND	ND	3,400	ND
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	NR	ND	ND	ND	ND	5,600	ND
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	NR	ND	ND	ND	ND	5,300	ND
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	NR	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	NR	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	NR	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	NR	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	NR	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	NR	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	29,000,000	ND	NR	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	NR	ND	ND	ND	ND	ND	ND
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	NR	ND	510	ND	ND	ND	ND
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	NR	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	NR	ND	ND	ND	ND	ND	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	NR	ND	ND	ND	ND	3,200	ND
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	NR	390	ND	ND	ND	ND	ND
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	NR	ND	ND	ND	ND	420	ND
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	4,100	NR	2,700	14,000	5,200	7,600	19,000	5,900
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100	8,400	45,000	400,000(C)	ND	ND	120	ND	ND	ND	6,500	ND
Ethylbenzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	460	ND	ND	ND	16,000	ND
Toluene	NA	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	ND	ND	ND	ND	53,000	ND
Xylenes	NA	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	ND	ND	ND	ND	140,000	ND
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	ND	ND	120	310	ND	ND	61,000	ND
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	ND	ND	ND	180	ND	ND	16,000	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	ND	13,000	35,000	ND	ND	21,000	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	260,000	240,000	ND	ND	11,000	ND

B=background, as defined in Rule 299.5701(e), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 7 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	19NE SIDEWALL 8.5' (µg/kg)	19NW SIDEWALL 9' (µg/kg)	GP-15 10-12' (µg/kg)	GP-15 13-15' (µg/kg)	GP-16 7-8' (µg/kg)	GP-16 10-12' (µg/kg)	GP-18 6-7' (µg/kg)	GP-18 6-7' DUP (µg/kg)		
Date Collected						12/23/99	12/23/99	1/5/00	1/5/00	1/5/00	1/5/00	1/5/00	1/5/00		
PNAs - Method 8310															
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	300	ND	ND	ND	ND	ND	ND	NR		
Acenaphthene	NA	870,000			350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	NR		
Acenaphthylene	NA	8,500			3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	ND	NR		
Anthracene	NA	41,000			1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	NR		
Benzo(a)anthracene	NA	NLL	NLV	NLV			290,000	ND	ND	ND	ND	ND	NR		
Benzo(a)pyrene	NA	NLL	NLV	NLV			29,000	ND	ND	ND	ND	ND	NR		
Benzo(b)fluoranthene	NA	NLL	ID	ID			290,000	ND	ND	ND	ND	ND	NR		
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV			23,000,000	ND	ND	ND	ND	ND	NR		
Benzo(k)fluoranthene	NA	NLL	NLV	NLV			2,900,000	ND	ND	ND	ND	ND	NR		
Chrysene	NA	NLL	ID	ID			29,000,000	ND	ND	ND	ND	ND	NR		
Dibenzo(a,h)anthracene	NA	NLL	NLV	NLV			29,000	ND	ND	ND	ND	ND	NR		
Fluoranthene	NA	720,000			1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	ND	ND	NR		
Fluorene	NA	890,000			1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	ND	ND	NR		
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV			290,000	ND	ND	ND	ND	ND	NR		
Naphthalene	NA	50,000			77,000,000	59,000,000	230,000,000	200	ND	ND	ND	ND	NR		
Phenanthrene	NA	34,000			28,000,000	150,000	23,000,000	ND	ND	ND	ND	ND	NR		
Pyrene	NA	470,000			1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	ND	ND	NR		
METALS - Method 6016															
Lead (B)		21,000	1,000 (B,M)	NLV	NLV		400,000	4,700	5,900	2,100	2,200	2,700	2,300	1,500	NR
VOCs - Method 8260															
1,1-Dichloroethane	NA	50,000			790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND		
1,2-Dibromoethane	**	**	**	**	**	**	**	ND	ND	ND	ND	ND	ND		
Methyl tert-butyl ether (MTBE)	NA	800			6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND		
Benzene	NA	100			8,400	45,000	400,000(C)	ND	ND	ND	ND	ND	ND		
Ethylbenzene	NA	1,500			140,000(C)	11,000,000	140,000(C)	ND	ND	ND	ND	ND	160		
Toluene	NA	16,000			250,000(C)	3,300,000	250,000(C)	ND	ND	ND	ND	ND	1,400		
Xylenes	NA	5,600			150,000(C)	54,000,000	150,000(C)	ND	ND	ND	ND	ND	280		
1,2,4-Trimethylbenzene	NA	2,100			110,000(C)	25,000,000	110,000(C)	ND	110	ND	ND	ND	1,400		
1,3,5-Trimethylbenzene	NA	1,800			94,000(C)	19,000,000	94,000(C)	ND	ND	ND	ND	ND	390		
Naphthalene	NA	50,000			77,000,000	59,000,000	230,000,000	ND	ND	ND	ND	ND	120		
2-Methylnaphthalene	NA	170,000	ID	ID			230,000,000	ND	ND	ND	ND	ND	98		

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 8 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	GP-18 12-14' (µg/kg)	GP-19 5-7' (µg/kg)	GP-19 15-16' (µg/kg)	GP-20 7-8' (µg/kg)	MDL (µg/kg)
Date Collected										
PNAs - Method 8310										
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	ND	ND	330
Acenaphthene	NA	870,000		350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	33
Acenaphthylene	NA	8,500		3,000,000	2,700,000	23,000,000	ND	ND	ND	33
Anthracene	NA	41,000		1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	33
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	33
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	33
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	ND	33
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	ND	33
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	ND	33
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	ND	33
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	33
Fluoranthene	NA	720,000		1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	33
Fluorene	NA	890,000		1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	33
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	33
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	ND	ND	ND	33
Phenanthrene	NA	34,000		28,000,000	150,000	23,000,000	ND	ND	ND	33
Pyrene	NA	470,000		1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	33
METALS - Method 6010										
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	1,200	1,400	1,600	1,300	150
VOCs - Method 8260										
1,1-Dichloroethane	NA	50,000		790,000(C)	36,000,000	790,000(C)	ND	ND	ND	50
1,2-Dibromoethane	**	**	**	**	**	**	ND	ND	ND	50
Methyl tert-butyl ether (MTBE)	NA	800		6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	250
Benzene	NA	100		8,400	45,000	400,000(C)	ND	ND	ND	50
Ethylbenzene	NA	1,500		140,000(C)	11,000,000	140,000(C)	ND	ND	ND	50
Toluene	NA	16,000		250,000(C)	3,300,000	250,000(C)	58	ND	ND	50
Xylenes	NA	5,600		150,000(C)	54,000,000	150,000(C)	ND	ND	ND	150
1,2,4-Trimethylbenzene	NA	2,100		110,000(C)	25,000,000	110,000(C)	58	ND	ND	50
1,3,5-Trimethylbenzene	NA	1,800		94,000(C)	19,000,000	94,000(C)	ND	ND	ND	50
Naphthalene	NA	50,000		77,000,000	59,000,000	230,000,000	ND	ND	ND	250
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	ND	ND	250

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate date to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csot, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2b
Soil Analytical Data
Waste Oil UST
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	11S	11N	MDL (µg/kg)
					BOTTOM (GP-9) 11-12' (µg/kg)	BOTTOM (GP-8) 10-11' (µg/kg)	
Date Collected					12/30/99	12/30/99	
YOCs - Method 8260							
1,1,1,2-Tetrachloroethane	26,000	65,000	190,000	980,000(C)	ND	ND	50
1,1,1-Trichloroethane	4,000	460,000(C)	4,500,000	460,000(C)	ND	ND	50
1,1,2,2-Tetrachloroethane	340	23,000	34,000	170,000	ND	ND	50
1,1,2-Trichloroethane	100	24,000	57,000	610,000	ND	ND	50
1,1-Dichloroethane	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	50
1,1-Dichloroethene	140	330	3,700	580,000(C)	ND	ND	50
1,1-Dichloropropene	**	**	**	**	ND	ND	50
1,2,3-Trichlorobenzene	**	**	**	**	ND	ND	50
1,2,3-Trichloropropane	2,400	ID	ID	830,000(C)	ND	ND	50
1,2,4-Trichlorobenzene	4,200	1,100,000(C)	34,000,000	1,100,000(C)	ND	ND	50
1,2,4-Trimethylbenzene	2,100	110,000(C)	25,000,000	110,000(C)	ND	ND	50
1,2-Dibromo-3-chloropropane	**	**	**	**	ND	ND	50
1,2-Dibromoethane	**	**	**	**	ND	ND	50
1,2-Dichlorobenzene	13,000	210,000(C)	46,000,000	210,000(C)	ND	ND	50
1,2-Dichloroethane	100	11,000	21,000	380,000	ND	ND	50
1,2-Dichloroethene, total	1,400	640,000(C)	37,000,000	640,000(C)	ND	ND	50
1,2-Dichloropropane	100	7,400	30,000	510,000	ND	ND	50
1,3,5-Trimethylbenzene	1,800	94,000(C)	19,000,000	94,000(C)	ND	ND	50
1,3-Dichlorobenzene	18,000	ID	ID	200,000(C)	ND	ND	50
1,3-Dichloropropane	**	**	**	**	ND	ND	50
1,4-Dichlorobenzene	1,700	100,000	260,000	1,400,000	ND	ND	50
2,2-Dichloropropane	**	**	**	**	ND	ND	50
2-Butanone (MEK)	760,000	27,000,000(C)	35,000,000	27,000,000(C)	ND	ND	250
2-Chloroethyl vinyl ether	ID	ID	ID	ID	ND	ND	50
2-Chlorotoluene	9,300	500,000(C)	ID	500,000(C)	ND	ND	50
2-Hexanone	58,000	1,800,000	ID	2,500,000(C)	ND	ND	250
4-Chlorotoluene	**	**	**	**	ND	ND	50
4-Isopropyltoluene	**	**	**	**	ND	ND	50
4-Methyl-2-pentanone (MIBK)	100,000	2,700,000(C)	53,000,000	2,700,000(C)	ND	ND	100
Acetone	42,000	110,000,000(C)	160,000,000	100,000,000	ND	ND	250
Acrylonitrile	130	35,000	17,000	64,000	ND	ND	250
Benzene	100	8,400	45,000	400,000(C)	ND	ND	50
bis(2-Chloroethyl)ether	330(M)	44,000	13,000	32,000	ND	ND	50
Bromobenzene	1,500	580,000	540,000	760,000(C)	ND	ND	50
Bromodichloromethane	2,000(W)	6,400	31,000	560,000	ND	ND	50
Bromoform	2,000(W)	770,000	3,100,000	870,000(C)	ND	ND	50
Bromomethane	580	1,600	13,000	1,500,000	ND	ND	50
Carbon disulfide	46,000	140,000	1,600,000	280,000(C)	ND	ND	100
Carbon tetrachloride	100	990	12,000	270,000	ND	ND	50
Chlorobenzene	2,000	220,000	920,000	260,000(C)	ND	ND	50
Chloroethane	18,000	970,000(C)	36,000,000	970,000(C)	ND	ND	50
Chloroform	2,000(W)	38,000	150,000	1,500,000(C)	ND	ND	50
Chloromethane	5,400	12,000	140,000	1,100,000(C)	ND	ND	50
cis-1,2-Dichloroethene	1,400	640,000(C)	47,000,000	640,000(C)	ND	ND	50
cis-1,3-Dichloropropene (J)	380	420	4,600	190,000	ND	ND	50
Dibromochloromethane	2,000(W)	21,000	80,000	410,000	ND	ND	50
Dibromomethane	4,600	ID	ID	2,000,000(C)	ND	ND	50
Dichlorodifluoromethane	270,000	1,000,000(C)	63,000,000	1,000,000(C)	ND	ND	50
Ethylbenzene	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	50
Freon-113	**	**	**	**	ND	ND	50
Hexachlorobutadiene	77,000	350,000(C)	460,000	350,000(C)	ND	ND	50
Iodomethane	**	**	**	**	ND	ND	250
Isopropylbenzene	260,000	390,000(C)	2,000,000	390,000(C)	ND	ND	50
m,p-Xylene	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	100
Methyl tert-butyl ether (MTBE)	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	250
Methylene chloride	100	240,000	700,000	2,300,000(C)	ND	ND	100
n-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
n-Propylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Naphthalene	50,000	77,000,000	59,000,000	230,000,000	ND	ND	250
sec-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Styrene	2,700	520,000(C)	3,200,000	520,000(C)	ND	ND	50
tert-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Tetrachloroethene	100	60,000	600,000	88,000(C)	ND	ND	50
Toluene	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	50
Xylenes, total	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	150

Table 2b (continued)
Soil Analytical Data
Waste Oil UST
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	11S BOTTOM (GP-9) 11-12' (µg/kg)	11N BOTTOM (GP-8) 10-11' (µg/kg)	MDL (µg/kg)
Date Collected						12/30/99	12/30/99	
PNAs - Method 8310								
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	330
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	330
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	330
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	330
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	330
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	330
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	330
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	330
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	330
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	330
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	330
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	330
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	330
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	330
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	ND	330
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	330
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	330
METALS - Method 6010								
Cadmium	1,200	6,000	NLV	NLV	3,200,000	75	57	13
Chromium (B)	18,000	30,000	NLV	NLV	30,000,000	13,000	5,100	1,300
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	3,200	2,600	2,600
PCBs - Method 8082								
PCBs		J(T)	16,000,000	820,000	(T)	ND	ND	330

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. T=Refer to the Toxic Substances Control Act (TSCA), 40 CFR 761, Subparts D and G, as amended to determine the applicability of TSCA cleanup standards.

Table 3
Comparison Table For Soil
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (µg/kg)	Applicable Criterion (µg/kg)	Exposure Code	Criterion Exceeded? (Yes or No)
PNAs						
2-Methylnaphthalene	7N Sidewall 2-3'	12/30/99	480,000	Tier I Commercial III 170,000	A	Yes
Acenaphthene	Pipe Run 3'	12/21/99	17,000	870,000	A	No
Acenaphthylene	19E Sidewall 8'	12/23/99	5,300	8,500	A	No
Anthracene	7N Sidewall 2-3'	12/30/99	15,000	41,000	A,B	No
Benzo(a)anthracene	Pipe Run 3'	12/21/99	11,000	290,000	C	No
Benzo(a)pyrene	Pipe Run 3'	12/21/99	19,000	29,000	C	No
Benzo(b)fluoranthene	Pipe Run 3'	12/21/99	3,300	290,000	C	No
Benzo(g,h,i)perylene	Pipe Run 3'	12/21/99	4,900	23,000,000	C	No
Benzo(k)fluoranthene	Pipe Run 3'	12/21/99	8,400	2,900,000	C	No
Chrysene	Pipe Run 3'	12/21/99	16,000	29,000,000	C	No
Dibenzo(a,h)anthracene	Pipe Run 3'	12/21/99	2,800	29,000	C	No
Fluoranthene	7N Sidewall 2-3'	12/30/99	7,100	720,000	A,B	No
Fluorene	7N Sidewall 2-3'	12/30/99	11,000	890,000	A,B	No
Indeno(1,2,3-cd)pyrene	Pipe Run 3'	12/21/99	12,000	290,000	C	No
Naphthalene	7N Sidewall 2-3'	12/30/99	230,000	50,000	A	Yes
Phenanthrene	Pipe Run 3'	12/21/99	11,000	34,000	A	No
Pyrene	7N Sidewall 2-3'	12/30/99	20,000	470,000	A,B	No
METALS						
Lead (B)	12W Sidewall 6'	12/21/99	89,000	21,000	A	Yes
VOCS						
1,1-Dichloroethane	NA	N/A	ND	50,000	A	No
1,2-Dibromoethane	NA	N/A	ND	**	**	No
Methyl tert-butyl ether (MTBE)	NA	N/A	ND	800	A	No
Benzene	12SE Sidewall 4'	12/21/99	16,000	100	A	Yes
Ethylbenzene	12W Sidewall 6'	12/21/99	24,000	1,500	A	Yes
Toluene	19E Sidewall 8'	12/23/99	53,000	16,000	A	Yes
Xylenes	12W Sidewall 6'	12/21/99	150,000	5,600	A	Yes
1,2,4-Trimethylbenzene	12W Sidewall 6'	12/21/99	180,000	2,100	A	Yes
1,3,5-Trimethylbenzene	12W Sidewall 6'	12/21/99	68,000	1,800	A	Yes
Naphthalene	12N Sidewall 6'	12/21/99	220,000	50,000	A	Yes
2-Methylnaphthalene	12N Sidewall 6'	12/21/99	450,000	170,000	A	Yes

Notes:

1. ND = Not detected at or above the MDEQ method detection limits.
2. NA = Not applicable
3. ** = Criterion not published to date by the MDEQ.
4. Exposure Codes:
 - A = Industrial and Commercial Drinking Water Protection RBSL
 - B = Commercial III Direct Contact
 - C = Soil Volatilization to Indoor Air Inhalation RBSL
 - D = Infinite Source Volatile Soil Inhalation RBSL (VSIC)
 - E = Statewide Default Background Level
5. Shaded values represent exceedance of the most stringent applicable cleanup criteria.

Table 4
Groundwater Analytical Data
PNAs, Lead, VOCs
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Industrial & Commercial II, III, & IV Drinking Water (µg/l)	Industrial & Commercial II, III, & IV Ground Water Volatilization to Indoor Air (µg/l)	Ground Water Contact Criteria (µg/l)	Resulting RBSL (µg/l)	Tank 12 BOTTOM (µg/l)	GP-20 (µg/l)	MDL (µg/l)
Date Collected					12/21/99	1/5/00	
PNAs - Method 8310							
2-Methylnaphthalene	750 ID		32,000		NR	6.8	5.0
Acenaphthene	3,800	4,200(S)	4,200(S)	3,800	NR	ND	5.0
Acenaphthylene	75	3,900(S)	3,900(S)	75	NR	ND	5.0
Anthracene	43(S)	43(S)	43(S)	43	NR	ND	5.0
Benzo(a)anthracene	5(M) NLV		5(M)	5	NR	ND	5.0
Benzo(a)pyrene	5(M) NLV		5(M)	5	NR	ND	5.0
Benzo(b)fluoranthene	5(M) ID		5(M)	5	NR	ND	5.0
Benzo(g,h,i)perylene	75 NLV		5(M)	5	NR	ND	5.0
Benzo(k)fluoranthene	48 NLV		21	21	NR	ND	5.0
Chrysene	480 ID		5(M)	5	NR	ND	5.0
Dibenzo(a,h)anthracene	5(M) NLV		5(M)	5	NR	ND	5.0
Fluoranthene	210(S)	210(S)	210(S)	210	NR	ND	5.0
Fluorene	2,000(S)	2,000(S)	2,000(S)	2,000	NR	ND	5.0
Indeno(1,2,3-cd)pyrene	5(M) NLV		5(M)	5	NR	ND	5.0
Naphthalene	750	31,000(S)	31,000(S)	750	NR	7.2	5.0
Phenanthrene	75	1,000(S)	1,000(S)	75	NR	ND	5.0
Pyrene	140(S)	140(S)	140(S)	140	NR	ND	5.0
METALS - Method 6010							
Lead (B)	4(L) NLV	ID		4	ND	ND	3.0
VOCs - Method 8260							
1,1-Dichloroethane	2,500	5,100,000(S)	2,100,000	2,500	ND	ND	1.0
1,2-Dibromoethane	**	**	**	**	ND	ND	1.0
Methyl tert-butyl ether (MTBE)	40(E)	47,000,000(S)	650,000	40	39	ND	5.0
Benzene	5(A)	36,000	9,400	5	8,400	ND	1.0
Ethylbenzene	74(E)	170,000(S)	170,000(S)	74	290	ND	1.0
Toluene	790(E)	530,000(S)	530,000(S)	790	950	ND	1.0
Xylenes	280(E)	190,000(S)	190,000(S)	280	10,000	ND	3.0
1,2,4-Trimethylbenzene	63(E)	56,000(S)	160,000	63	11,000	ND	1.0
1,3,5-Trimethylbenzene	72(E)	61,000(S)	210,000	72	3,800	ND	1.0
Naphthalene	750	31,000(S)	31,000(S)	750	2,500	ND	5.0
2-Methylnaphthalene	750 ID		32,000	750	1,400	ND	5.0

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 5
Comparison Table For Groundwater
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (µg/l)	Applicable Criterion (µg/l)	Exposure Code	Criterion Exceeded? (Yes or No)
PNAs						
2-Methylnaphthalene	GP-20	1/5/00	6.8	Tier I Commercial III 750	A	No
Acenaphthene	NA	NA	ND	3,800	A	No
Acenaphthylene	NA	NA	ND	75	A	No
Anthracene	NA	NA	ND	43	A,B,C	No
Benzo(a)anthracene	NA	NA	ND	5	A,C	No
Benzo(a)pyrene	NA	NA	ND	5	A,C	No
Benzo(b)fluoranthene	NA	NA	ND	5	A,C	No
Benzo(g,h,i)perylene	NA	NA	ND	5	C	No
Benzo(k)fluoranthene	NA	NA	ND	21	C	No
Chrysene	NA	NA	ND	5	C	No
Dibenzo(a,h)anthracene	NA	NA	ND	5	A,C	No
Fluoranthene	NA	NA	ND	210	A,B,C	No
Fluorene	NA	NA	ND	2,000	A,B,C	No
Indeno(1,2,3-cd)pyrene	NA	NA	ND	5	A,C	No
Naphthalene	GP-20	1/5/00	7.2	750	A	No
Phenanthrene	NA	NA	ND	75	A	No
Pyrene	NA	NA	ND	140	A,B,C	No
METALS						
Lead (B)	NA	NA	ND	4	A	No
VOCs						
1,1-Dichloroethane	NA	NA	ND	2,500	A	No
1,2-Dibromoethane	NA	NA	ND	**	**	No
Methyl tert-butyl ether (MTBE)	Tank 12 Bottom	12/21/99	39	40	A	No
Benzene	Tank 12 Bottom	12/21/99	8,400	5	A	Yes
Ethylbenzene	Tank 12 Bottom	12/21/99	290	74	A	Yes
Toluene	Tank 12 Bottom	12/21/99	950	790	A	Yes
Xylenes	Tank 12 Bottom	12/21/99	10,000	280	A	Yes
1,2,4-Trimethylbenzene	Tank 12 Bottom	12/21/99	11,000	63	A	Yes
1,3,5-Trimethylbenzene	Tank 12 Bottom	12/21/99	3,800	72	A	Yes
Naphthalene	Tank 12 Bottom	12/21/99	2,500	750	A	Yes
2-Methylnaphthalene	Tank 12 Bottom	12/21/99	1,400	750	A	Yes

Notes:

1. ND = Not detected at or above the MDEQ method detection limits.
2. NA = Not applicable
3. ** = Criterion not published to date by the MDEQ.
4. Exposure Codes:
 - A = Industrial and Commercial Drinking Water Protection RBSL
 - B = Commercial III Direct Contact
 - C = Soil Volatilization to Indoor Air Inhalation RBSL
 - D = Infinite Source Volatile Soil Inhalation RBSL (VSIC)
 - E = Statewide Default Background Level
5. Shaded values represent exceedence of the most stringent applicable cleanup criteria.

DATE ENTERED INTO DATABASE

10-23-03

IRONMENTAL QUALITY - REMEDIATION & REDEVELOPMENT DIVISION
926, Phone 517-373-9837, Fax 517-373-2637, E-mail DEQ-STD-TANKS@michigan.gov

STAFF INITIALS:

PB

**3 UNDERGROUND STORAGE TANK
MENTAL REPORT COVER SHEET**

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Quarterly Free Product Report

FACILITY NAME: Detroit Department of Transportation

FACILITY ID NUMBER: 00013464

STREET ADDRESS: 14044 Schaefer Hwy.

CITY: Detroit

STATE: MI

ZIP CODE: 48227

COUNTY: Wayne

DATE(S) RELEASE(S) DISCOVERED: 1. 12/20/99, 2. 12/20/99,
3. 12/30/99, and 4. 1/25/00

CONFIRMED RELEASE NUMBER(S): 1. C-1332-99,
2. C-1333-99, 3. C-1388-99, and 4. C-88-00

O/O NAME: City of Detroit

O/O STREET ADDRESS: 5300 Chrysler Service Drive

STATE: MI

ZIP CODE: 48211

CONTACT PERSON: Ken Ong

PHONE NUMBER: 313.833.3000

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel

2. Free product present:

a. Currently? YES NO

If YES, total gallons recovered since last report: 1.53

b. Previously? YES NO

If YES, total gallons recovered to date: 2.72

3. Have vapors been identified in any confined spaces (basement, sewers)? YES NO

4. Estimated depth to groundwater: 4 feet

Estimated groundwater flow direction: radial

5. Estimated distance and direction from point of release to nearest:

a. Private well: > 1/2 Mile

b. Municipal well: > 1/2 Mile

c. Surface water/wetland: Detroit River, > 1Mile South

6. Since last report: a. cubic yards of soil remediated: 1,520

b. gallons of groundwater remediated: 0

7. Totals to date: a. cubic yards of soil remediated: 6,260

b. gallons of groundwater remediated: 2,800

8. Michigan RBCA Site Classification (1-4): 1

9. Has contamination migrated off-site above Tier 1 Residential RBSLs YES NO

If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 YES NO

10. MTBE

Has MTBE been detected in any groundwater sample?

YES NO

Maximum MTBE concentration found in groundwater

39 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD).

on OCT. 10, 2003 (Date submitted REQUIRED)

CP Original Signature - (REQUIRED)

Date

Michael K. Jordan
PRINT CP's Name

CP ID: 895

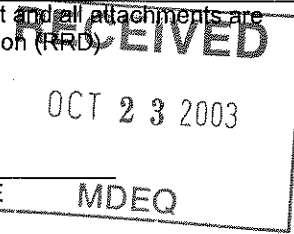
ADDRESS 400 Monroe, Ste. 410, Detroit, MI 48226

Carolyn L. Paplin
PRINT QC PROJECT MANAGER'S NAME

The Traverse Group, Inc.
NAME OF CONSULTING FIRM

QC ID: Z00179

PHONE: (313) 237-7777 FAX: (313) 237-2222





FREE PRODUCT RECOVERY STATUS REPORT

Authorized by Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451).

INSTRUCTIONS: Use the checklist below to ensure that all required information is provided in the Quarterly Free Product Recovery Status Report and submit WITH THE SUPPLEMENTAL REPORT COVER SHEET (EQP3849) to the appropriate Remediation & Redevelopment Division (RRD) district office. See form eqp4410 for a complete list of RRD district offices. Include this checklist as a table of contents. Each page of the report should be consecutively numbered. The location column should be completed with the appropriate page number for each item. Refer to Storage Tank Division Operational Memorandum No. 7 for further instructions. The reporting schedule may be altered at the discretion of the DEQ project manager based on site conditions.	FACILITY ID NUMBER: 00013464
	SITE NAME: Detroit Department of Transportation
	COUNTY: Wayne

Section	Table of Contents	Page
1.0	<u>ACTIVITIES COMPLETED</u> Section 21307(2) and (3)(b),(c)	
	A. Describe response activities completed to address free product.	1
2.0	<u>EXPOSURE PATHWAY EVALUATION</u> Section 21307(2)(a),(e) and (3)(c)	
	A. Identify and describe complete exposure pathways related to the free product.	2
	B. Provide a scaled site map, which shows the extent of free product including the utility corridors, buildings with or without basements, private wells, and sensitive habitat/surface water.	1, Figure 1
3.0	<u>DATA TREND ANALYSIS</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Provide a data summary table for all wells that contain free product. The table should include monitoring point location, date sampled, depth to water, free product thickness, and quantity of free product removed.	2, Table 1
	B. Provide graphs of static water elevations of a well near the free product plume versus free product apparent thickness compared over time. These graphs should be provided for all monitoring wells that have shown free product.	2, Graph 1
	C. Provide graphs of static water elevations versus groundwater concentration (e.g., Benzene, MTBE, and/or total BTEX) in select downgradient monitoring wells compared over time.	Graph 2
4.0	<u>FEASIBILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM</u> Section 21307(2)(c)(i),(ii) and (3)(c), and 21308a(1)(b)(xviii)	
	A. Provide initial and any subsequent bail-down test recovery data, analysis of which will determine the frequency of recovery. Refer to the references in Storage Tank Division Operational Memorandum No. 7 for sample calculations.	2
	B. Attach a schematic drawing of the free product recovery system.	2
5.0	<u>PERMITTING AND WASTE DISPOSAL TRACKING</u>	
	A. Provide copies of manifests or trip logs of liquid industrial waste or recycling per Section 21307(2)(c)(iii) and (3)(c), and 21308a(1)(b)(xvii)(H).	2
	B. Provide the air quality sampling results and calculations to meet Rule 290 of the Air Pollution Control Rules promulgated under Part 55, Air Pollution Control, of Act 451.	2
6.0	<u>OPERATION AND MAINTENANCE RECOVERY DATA</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Describe any free product system design modifications, since last submittal.	2
	B. Provide the action levels that may trigger a change in remediation strategy.	2
7.0	<u>PROPOSED FUTURE ACTIONS</u> Section 21307(2)(e) and Section 21309a(2)(e)	
	A. Provide a schedule for free product evaluation and groundwater sampling.	3
	B. Provide a schedule outlining the next operation and maintenance activities.	3
	C. Provide the date of the next report.	3

**QUARTERLY FREE PRODUCT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY NO. 00013464
14044 SCHAEFER HWY, DETROIT, MICHIGAN**

FREE PRODUCT DISCOVERY, IMMEDIATE RESPONSE, AND REPORTING

Free Product Discovery

During a groundwater sampling event conducted on April 16, 2003, free product was discovered in monitor well MW-15 (refer to the attached Site Sketch for location) at the site.

Immediate Response Activities

Approximately 1.08 inches of free product thickness was measured and 0.05 gallons of free product were removed from MW-15 (refer to Table 1 for free product elevation data and removal quantities). The free product was removed from MW-15 by hand bailing using a disposable bailer and containerized in a 55-gallon steel DOT approved drum that was properly labeled and stored on-site. Existing monitor wells on- and off-site were gauged during the sampling event and free product was not present in any other monitor wells. In addition, the site was surveyed for possible fire, explosion, and vapor hazards. The results of the survey indicated that no fire, explosion, or vapor hazards were present.

Reporting

The Michigan Department of Environmental Quality (MDEQ) was notified within 24-hours by fax transmittal using the MDEQ Free Product Fax Transmittal form.

Following the May 15, 2003, site visit, monthly site visits have been continued to date. A monthly site visit was conducted on October 9, 2003 to gauge apparent free product thickness and perform free product recovery.

FREE PRODUCT REMOVAL ACTIVITIES

After the discovery of free product in MW-15, the site was monitored for free product on a weekly basis for one month. Since the quantity of free product removed was consistent, the frequency of the free product site monitoring visits was revised to monthly.

Field data obtained from the first monthly (June 26, 2003) free product site monitoring visit indicated a slight increase in free product thickness but not a significant increase. Since then the free product thickness has significantly decreased. Based on this information, the frequency of free product monitoring site visits will continue monthly and free product recovery will be performed by hand-bailing techniques.

The next monthly free product site monitoring visit is scheduled for November 2003. During the site visit, the existing nearby monitor wells on- and off-site will be screened. If it is determined that the quantity or thickness of free product has significantly increased or free product is discovered in other monitor wells, the current free product recovery

method will be revised to an active recovery system. No free product has been observed in any other wells on- or off-site

EXPOSURE PATHWAY EVALUATION

Exposure pathways applicable to the site are consistent with the Final Assessment Report (FAR).

FREE PRODUCT DELINEATION

Free product will be delineated during the installation of the proposed remediation system (as summarized in the Corrective Action Plan of the Amended FAR dated August 28, 2003).

DATA TREND ANALYSIS

Free product elevation data, apparent free product thickness, and quantity of free product removed from April 16, 2003 through October 9, 2003 is presented in Table 1. Graph 1 depicts the static water level elevations of MW-15 versus the apparent free product thickness over time. The results of a free product bail-down test performed at MW-15 can be found in the first quarterly free product report. Graph 2 depicts the apparent free product thickness vs. the groundwater elevations in the existing wells on- and off-site.

FEASIBILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM

On April 17, 2003, a bail-down test was performed at MW-15. The bail-down test recovery data for MW-15 is provided in the first quarterly free product report dated July 14, 2003. Based on the free product thickness and quantity encountered since October 9, 2003, monthly free product monitoring and recovery by hand-bailing method is appropriate. However, if the results of the free product delineation activities or monthly free product site monitoring indicate an unstable or increasing free product plume, then the current recovery system will be immediately revised to stabilize and reduce the plume.

PERMITTING AND WASTE DISPOSAL TRACKING

Free product recovered from MW-15 to date (a total of 2.72 gallons) was placed in a properly labeled, DOT approved, 55-gallon drum, and stored on-site.

Air quality sampling and calculations are not deemed necessary at this time since the free product is recovered by hand-bailing using a disposable bailer.

PROPOSED FUTURE ACTIONS

Monthly Free Product Monitoring

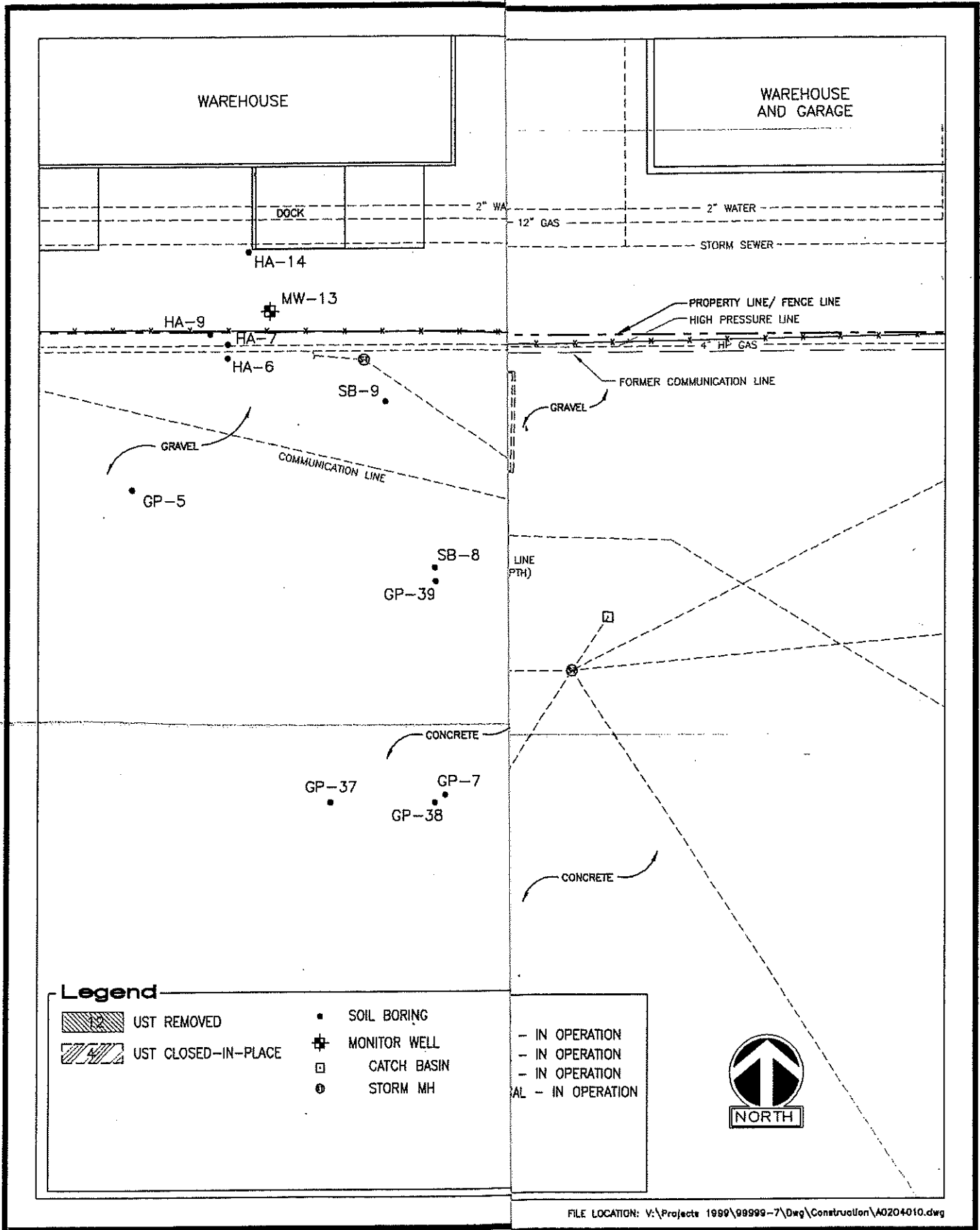
Monthly free product monitoring and recovery will continue.

Free Product Delineation Activities

The free product plume will be delineated during the installation of the remediation system. Due to system installation delays, the results will be included in the fourth Quarterly Free Product Report.

Next Quarterly Free Product Report

The next Quarterly Free Product Report will be submitted to the MDEQ on or before January 15, 2004.



FILE LOCATION: V:\Projects 1999\99999-7\Draw\Construction\A0204010.dwg

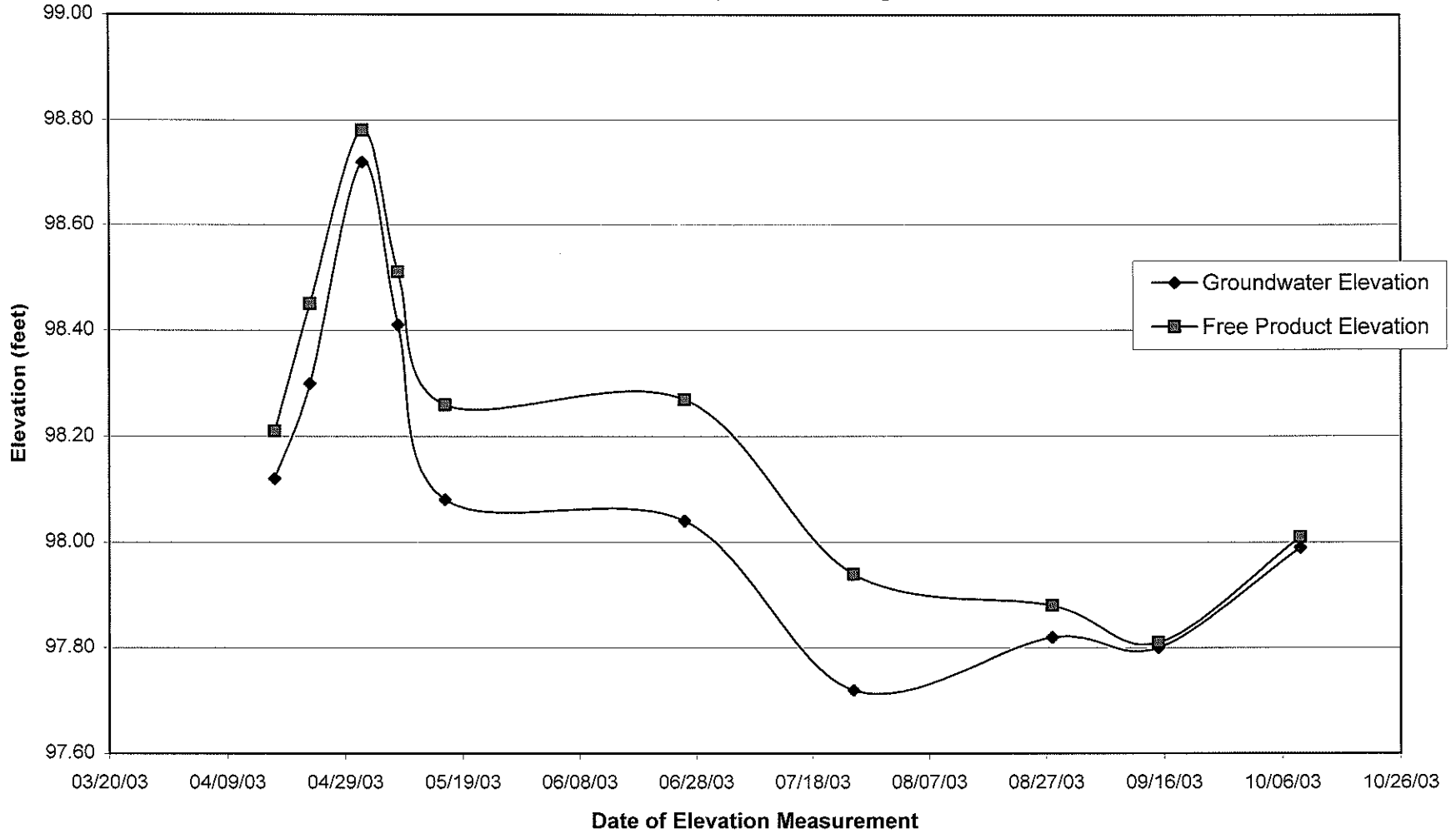


SITE SKETCH
 DEPARTMENT OF TRANSPORTATION
 COOLIDGE FACILITY
 DETROIT, MICHIGAN


Table 1
Free Product Data Summary Table
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Highway, Detroit, Michigan

Monitoring Location	Date Sampled	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet AMSL)	Product Elevation (feet AMSL)	Apparent Free Product Thickness (inches)	Quantity of Free Product Removed (gallons)
MW-15	04/17/03	100.03	1.91	98.12	98.21	1.08	0.05
	04/23/03		1.73	98.30	98.45	1.80	0.06
	05/02/03		1.31	98.72	98.78	0.72	0.06
	05/08/03		1.62	98.41	98.51	1.20	0.03
	05/16/03		1.95	98.08	98.26	2.16	0.09
	06/26/03		1.99	98.04	98.27	2.76	0.90
	07/25/03		2.31	97.72	97.94	2.64	0.75
	08/28/03		2.21	97.82	97.88	0.72	0.75
	09/15/03		2.23	97.80	97.81	0.12	0.01
10/09/03	2.04	97.99	98.01	0.24	0.02		
Total Product Removed from MW-15:							2.72
MW-7	06/26/03	100.06	8.49	91.57	0.0	0.0	0.0
	07/25/03		6.24	93.82	0.0	0.0	0.0
	08/28/03		5.14	94.92	0.0	0.0	0.0
	09/15/03		4.5	95.56	0.0	0.0	0.0
	10/09/03		3.01	97.05	0.0	0.0	0.0
Total Product Removed from MW-7:							0.0
MW-10	06/26/03	102.07	5.01	97.06	0.0	0.0	0.0
	07/25/03		----	--	0.0	0.0	0.0
	08/28/03		5.36	96.71	0.0	0.0	0.0
	09/15/03		5.45	96.62	0.0	0.0	0.0
	10/09/03		5.40	96.67	0.0	0.0	0.0
Total Product Removed from MW-10:							0.0
MW-11	06/26/03	101.87	3.29	98.58	0.0	0.0	0.0
	07/25/03		3.19	98.68	0.0	0.0	0.0
	08/28/03		3.32	98.55	0.0	0.0	0.0
	09/15/03		3.40	98.47	0.0	0.0	0.0
	10/09/03		3.32	98.55	0.0	0.0	0.0
Total Product Removed from MW-11:							0.0
MW-12	06/26/03	101.57	3.54	98.03	0.0	0.0	0.0
	07/25/03		3.52	98.05	0.0	0.0	0.0
	08/28/03		3.62	97.95	0.0	0.0	0.0
	09/15/03		3.73	97.84	0.0	0.0	0.0
	10/09/03		3.56	98.01	0.0	0.0	0.0
Total Product Removed from MW-12:							0.0
MW-13	06/26/03	100.66	6.33	94.33	0.0	0.0	0.0
	07/25/03		6.70	93.96	0.0	0.0	0.0
	08/28/03		6.80	93.86	0.0	0.0	0.0
	09/15/03		6.85	93.81	0.0	0.0	0.0
	10/09/03		6.49	94.17	0.0	0.0	0.0
Total Product Removed from MW-13:							0.0
MW-14	06/26/03	101.93	3.61	98.32	0.0	0.0	0.0
	07/25/03		4.19	97.74	0.0	0.0	0.0
	08/28/03		4.44	97.49	0.0	0.0	0.0
	09/15/03		4.48	97.45	0.0	0.0	0.0
	10/09/03		4.03	97.90	0.0	0.0	0.0
Total Product Removed from MW-14:							0.0
Total Product Removed:							2.72

Graph 1
Apparent Free Product Thickness MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan



The Traverse Group



Coolidge Terminal Draft Categorical Exclusion

Prepared for the
Detroit Department of Transportation

Prepared by
URS Corporation

November 30, 2012

Statement of Limitations

The Coolidge Terminal Categorical Exclusion is a **draft** document and is intended to be a working document for DDOT review. We anticipate comments and encourage your feedback on all aspects of the report. Depending on the comments received from DDOT, there may be another iteration of this level of report to ensure that we are adequately addressing the needs of the work order.

Coolidge Terminal Draft Categorical Exclusion

Prepared pursuant to 23 CFR 771.117(d)

**Prepared for the
Detroit Department of Transportation**

November 30, 2012

Prepared by



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Appendix C	Architectural and Historical Evaluation of the Coolidge Terminal, August 2012
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1.0 PROJECT AUTHORITY

The Detroit Department of Transportation (DDOT) is seeking federal funds from the Federal Transit Administration (FTA) for assistance with the proposed renovation of the Coolidge Terminal bus maintenance facility and, therefore, must comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act of 1966, as amended.

In accordance with 23 CFR Section 771.117(d), the purpose of this written documentation is to assist DDOT in gathering and organizing materials for environmental analysis required under NEPA for the proposed Coolidge Terminal project that may qualify as a Documented Categorical Exclusion. Submission of this information by itself does not meet NEPA requirements. If the project qualifies as a Documented Categorical Exclusion, it must receive written concurrence from FTA.

2.0 PROJECT DESCRIPTION

DDOT is proposing a construction project at its Coolidge Terminal located at 14044 Schaefer Highway in the City of Detroit (See Figure 1 in Appendix A). In January 2012, the Coolidge Terminal temporarily closed pending the completion of the proposed project. The Coolidge Terminal is one of four facilities that DDOT owns and operates to service its bus fleet.

The Coolidge Terminal construction project proposes to modernize and improve existing DDOT equipment, buildings and property, as well as new construction. The proposed project would be contained to the site and upon completion would result in the facility returning to its normal operations. Proposed construction would not result in any additional taking of land; therefore, no acquisitions or relocations are required. The proposed project is a renovation of existing equipment and infrastructure and the construction of new facilities on site. A detailed project description follows.

2.1 DETAILED PROJECT DESCRIPTION

The proposed project includes interior work on the existing buildings, repair and/or replacement of roofs on existing buildings, demolition and removal of the existing fare box building and the existing boiler/power house, the construction of a new fare box building and the construction of an approximately 100,000-square-foot bus storage building on the eastern portion of the parcel (see Figure 2 in Appendix A). Other improvements would include fueling system upgrades, new concrete pavement and curbs, a new guardrail system, upgrades in locker rooms, rehabilitation of the terminal (administration) building, replacement of existing perimeter fencing, a new security system, interior painting and lighting upgrades, new primary electrical service and a new emergency generator system. Approximately one acre of vegetation would be removed including approximately 11 trees ranging in diameter from 4 to 15 inches. Upon completion of the proposed project, the Coolidge Terminal would resume its normal operations. Vehicle activity at the site is not expected to increase in the near future. Vehicular access to/from the site would not change. The proposed project site plans are located in Appendix B.

Specific elements that are part of the proposed Coolidge Terminal project include the following:

- Construction of a new 100,000-square-foot multi-purpose building for the maintenance and storage of the ultra-low sulfur diesel buses.
- Construction of a new fare collection facility.
- New concrete pavement at the site.
- New fueling approaches for the clean fuels fueling area.
- Addition of a “Posi-Lock” fuel system to insure complete fueling of buses.
- Addition of new engine wash equipment for the ultra-low sulfur diesel buses to help prevent overheating and reduce engine wear and maintenance.
- Addition of a new “Clean Fuels” Technology Center to create awareness and a research tool for DDOT staff. The Technology Center will include office areas near the new clean fuels bus storage and maintenance areas.
- Installation of new ultra-low sulfur diesel underground storage tanks and related fuel dispensing equipment.
- New Fuel System Technology for tracking mileage and fuel economy of each bus along with maintenance data and exhaust emissions.
- New fencing and security system.
- Electrical upgrades at the site.
- A new emergency generator system that allows continuous operation during power outages.
- New Hoist equipment and related maintenance items for the new maintenance areas.
- Cleaning and sealing of new and existing garage floors.
- New tail pipe exhaust system.

2.2 LOCATION

The location of the proposed improvements is the site of the existing Coolidge Terminal, located at 14044 Schaefer Highway in Detroit, Wayne County, Michigan.

The facility consists of several buildings concentrated on the western portion of the site as shown on Figure 2. A gate house, terminal (administration) building, and a small building no longer in use stand close to Schaefer Highway. A large complex of connected bus storage, maintenance, and washing buildings occupies the south-central portion of the site and is surrounded by paved areas. A fare box house and a heating plant are located northeast of the complex of buildings. A communications tower and adjacent equipment buildings stand on the eastern portion of the site, which is an unpaved area used for bus parking.

3.0 EXISTING CONDITIONS AND IMPACTS

3.1 METROPOLITAN PLANNING AND AIR QUALITY CONFORMITY

This project falls under funds allocated in the 2012 Transportation Improvement Program (TIP ID#: 2011289). The available funding is a combination of Congestion Mitigation and Air Quality Improvement (CMAQ) program, 5307, 5309 and Comprehensive Transportation Funds for construction of an alternative fuels facility. The community, through the metropolitan planning organization plan and the TIP, is an ozone attainment/maintenance area, a particulate matter

(PM2.5) nonattainment area and carbon monoxide (CO) attainment/maintenance area. The proposed construction would facilitate the presence and use of ultra-low sulfur buses and exhaust gas recirculation technology, which expel less air contaminants than the traditional diesel buses that are currently housed at the site.

3.2 ZONING AND LAND USE

Zoning for the project site is M4 (Intensive Industrial District) and a broad range of uses are permitted in this district. The proposed project is consistent with the current zoning in the project area.

The surrounding area is zoned as M4 to the north and west and R1 Single-Family Residential District to the south and east. Schaefer Highway borders the western edge of the site and a commercial moving and storage company borders the northern edge of the site. The eastern and southern boundaries are lined with residential properties that front on Ward Street and Compass Street, respectively.

The Southeast Michigan Council of Governments (SEMCOG) provided Year 2008 land use data. Using SEMCOG standard colors and land use categories for displaying the data (see Figure 3 in Appendix A), the site of the Coolidge Terminal has a SEMCOG land use designation of “transportation, communication, and utility.” The surrounding area to the north and to the west of the proposed project site is dominated by industrial; commercial; governmental/Institutional; and transportation, communication, and utility land uses. South and east of the site, land use is comprised of single-family residential and transportation. The proposed project is an appropriate use under existing land use designations. Access to/from the site would not change.

3.3 TRAFFIC IMPACTS

The Coolidge Terminal operates 24 hours per day, 7 days per week. The heaviest concentration of activity occurs from Monday through Friday, when a full complement of drivers and mechanics are working at the facility. During this time, mechanics, drivers and other DDOT staff arrive and depart the facility along with DDOT buses that pull-in and pull-out to meet DDOT’s service schedule.

During a typical weekday, it is estimated that approximately fifteen hundred vehicles enter and leave the facility in a 24-hour period. The highest concentrations of vehicles entering and exiting the facility occur during the early morning, early afternoon and early evening hours. The number of mechanics and drivers who report to the Coolidge Terminal on Saturdays, Sundays and holidays are fewer than on regular weekdays. **Table 1** details vehicle traffic at the facility during a typical weekday.

Table 1: Estimated Daily Vehicle Activity at Coolidge Terminal

	Staff Arrivals	Bus Pull-Outs	Bus Pull-Ins	Staff Departures	Total Vehicle Activity
AM Hours					
12:00 – 1:00	30	0	27	61	118
1:00 – 2:00	0	0	7	7	14
2:00 – 3:00	0	0	0	0	0
3:00 – 4:00	9	9	0	0	18
4:00 – 5:00	30	30	0	0	60
5:00 – 6:00	70	70	7	7	154
6:00 – 7:00	32	32	1	1	66
7:00 – 8:00	33	12	1	1	47
8:00 – 9:00	1	1	10	40	52
9:00 – 10:00	0	0	18	18	36
10:00 – 11:00	7	7	17	17	48
11:00 – 12:00	13	13	16	16	58
PM Hours					
12:00 – 1:00	32	32	26	26	116
1:00 – 2:00	32	32	27	27	118
2:00 – 3:00	50	50	19	19	138
3:00 – 4:00	32	32	16	16	96
4:00 – 5:00	46	6	26	48	126
5:00 – 6:00	4	4	23	23	54
6:00 – 7:00	0	0	18	18	36
7:00 – 8:00	2	2	16	16	36
8:00 – 9:00	3	3	22	22	50
9:00 – 10:00	3	3	17	17	40
10:00 – 11:00	0	0	9	9	18
11:00 – 12:00	0	0	7	7	14
Total Activity	429	338	330	416	1513

Source: Detroit Department of Transportation.

Sole access to/from the site is from Schaefer Highway at the northwest corner of the site. Schaefer Highway is classified as a principal arterial road. The 24-hour traffic counts from 2008 (latest available data) for the segment of Schaefer Highway from Warren Avenue to 8 Mile Road are presented below in **Table 2**.

Table 2: Schaefer Highway 24-Hour Traffic Counts

Direction	Warren Avenue to 8 Mile Road (2008)
Northbound	4,980
Southbound	4,780
Total	9,760

Source: <http://www.semco.org/data/Apps/trafficcounts.report.cfm>.

Based on the existing (2008) annual average daily traffic of 9,760 and the carrying capacity on Schaefer Highway, no significant adverse impacts on traffic operations on Schaefer Highway or on neighboring residential streets are anticipated with buses and other vehicles entering and exiting the project site. The proposed project would not involve changes in travel patterns or access control to/from the facility. No increase in daily vehicle activity at the site is expected in the near future with the proposed project.

3.4 CO HOT SPOTS

There would not be any traffic problems resulting from this project that would generate CO in excess of applicable standards. In addition, Detroit is a CO attainment/maintenance area.

3.5 HISTORIC RESOURCES

In July 2012, an architectural and historical evaluation was completed for properties on and adjacent to the proposed site. The Area of Potential Effect (APE) included the Coolidge Terminal site (including all buildings on the site) and all properties adjacent to the site. Adjacent properties included residential and industrial properties across Schaefer Highway from the project site, and those that abut the property on its north, east, and south sides. Of all properties within the APE, only the Coolidge Terminal site has been recommended as eligible for the National Register of Historic Places under Criterion A as representative of the City of Detroit's move to modernize the public transportation system in the city during the post-World War II era. A complete discussion of this recommendation can be found in the *Architectural and Historical Evaluation of the Coolidge Terminal, Detroit, Wayne County, Michigan*, Commonwealth Cultural Resources Group, R-1002.01, August 2012, located in Appendix C.

The Michigan State Historic Preservation Office (SHPO) will be consulted regarding the Coolidge Terminal. In the event that an adverse effect to any historic properties is identified as a result of the proposed project, DDOT will enter into the appropriate mitigation as determined by the SHPO. This may include a Memorandum of Agreement or other document that details mitigation measures. A separate Section 4(f) Evaluation may be warranted if the Coolidge Terminal site is determined eligible for the National Register.

3.6 NOISE

Since the function of the site would not be changed by the proposed construction, noise is not anticipated to be an issue. In addition, buses would be housed in an enclosed storage/maintenance facility, which may decrease noise generated at the site.

3.7 VIBRATION

The proposed project would not cause vibration impacts.

3.8 ACQUISITIONS AND RELOCATIONS REQUIRED

Proposed construction would take place on the existing Coolidge Terminal site, therefore, no acquisitions or relocations are required.

3.9 HAZARDOUS MATERIALS

A request to the U.S. Environmental Protection Agency (EPA) to comment on the proposed project was sent via letter on June 15, 2012. In an email dated August 13, 2012, the EPA stated that it “gave the provided materials a cursory review and decided not to provide comments” (see Appendix D for agency coordination letters and responses).

The Michigan Department of Environmental Quality (MDEQ) was also contacted during the preparation of this document. Although the agency did not respond directly, their subcontractor, Gannett Fleming, provided information via telephone relative to the site (Savage, 2012, personal communication) that indicated workers have been on-site at the facility performing environmental investigations, similar to a Phase II site assessment, which includes geotechnical borings and temporary monitoring. It was stated that a feasibility study is also being prepared. Should environmental contamination problems be identified at the site, a proposed remediation plan would be developed to detail the steps that would ensure the community is protected from potential contamination during construction and operation. On-going coordination with the MDEQ, the City’s Department of Environmental Affairs, and other regulatory agencies would occur, as required.

The proposed project includes fueling system upgrades (see plans in Appendix B). The Department of Licensing and Regulatory Affairs (LARA), effective December 2, 2012, administers the underground storage tank (UST) program and the aboveground storage tank program. This program includes regulatory activities and oversight of the design, construction, installation and maintenance of USTs storing regulated substances. The regulations do not require state approval of plans, but do require that the plans be certified. DDOT, as the owner/operator, must submit a notice of proposed installation of USTs, which provides facility and UST details. The review period is 30 days, from date of receipt, to issue a review report on the proposed installation.

The proposed project includes interior work on the existing buildings, repair and/or replacement of roofs on existing buildings, demolition and removal of the existing fare box building and the existing boiler/power house. The buildings at the facility have the potential to contain asbestos since structures constructed prior to the 1970s were potentially built and/or insulated with products that contain asbestos. The proposed project is subject to the notification requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Title 40 of CFR, Part 61, Subpart M, for renovation and demolition projects.

Planned renovations to buildings at the facility and demolition of the fare box building and boiler/power house would be initiated by first conducting a thorough inspection to identify the presence of regulated asbestos containing materials (RACM) and other hazardous building materials (lead-based paint, polychlorinated biphenyl-containing electrical equipment, mercury switches, refrigerants, and the like) that require special handling and disposal.

For planned renovations, if the amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed at the facility equals or exceeds the threshold, as outlined in the *Guidance for Submitting Notification of Renovation and/or Demolition Projects*,¹ the project is subject to

¹ Source: MDEQ, *Guidance for Submitting Notification of Renovation and/or Demolition Projects*, September 2005.

the NESHAP regulations and notification is required. A notification must be submitted at least 10 working days before and should describe the upcoming renovation plans and give the scheduled dates of asbestos removal.

For scheduled demolition, notice is required for demolition of all subject facilities, regardless of the amount of asbestos, including those facilities where the asbestos has been removed or has never contained asbestos. If the buildings to be demolished at the Coolidge Terminal (i.e. fare box building and boiler/power house) contain RACM at or above the threshold, the NESHAP requires the RACM be removed prior to demolition. Notification is required 10 working days prior to beginning asbestos removal and demolition. If a building to be demolished contains less than the threshold amount of RACM, notification must be submitted 10 working days prior to beginning demolition. The NESHAP does not require removal of RACM in demolition if the amount is below the threshold.

Renovation and demolition notifications should be sent to the MDEQ Asbestos Program in Detroit.

3.10 COMMUNITY DISRUPTION AND ENVIRONMENTAL JUSTICE

The proposed project would provide enhancements to an existing facility and would not change the land use. The project would not cause any displacements and is not anticipated to disrupt the surrounding community.

Executive Order 12898 (February 11, 1994) directed each federal agency to achieve “environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations.” This project is seeking federal funds and is considered a federal project for purposes of compliance with the Executive Order.

Year 2010 Census data and American Community Survey five-year estimates (2006-2010) were used to determine the presence of minority populations and low-income populations within a one-half-mile radius of the site of the proposed project. The results are shown in **Table 3** below, in comparison to the City of Detroit and Wayne County.

Table 3: Minority and Low-Income Populations within the Project Area

	Total Population	Minority Population		Poverty Rate
		Number	Percent	
Coolidge Terminal (½ mile radius)	1,870	1,844	98.6%	33.4%*
City of Detroit	713,777	658,173	92.2%	34.5%
Wayne County	1,820,584	918,404	50.5%	21.4%

Source: Census 2010 SF1 and 2006-2010 American Community Survey five-year estimates

*Poverty rate was calculated using entire Census tract within 0.5 mile of the project site. Census tracts included 5342, 5352, 5353, 5366, 5367, 5371, 5372, 5373, 5377, 5378.

As shown in the table, the percentage of minority populations in the project area is higher than the percentages for both the City of Detroit and Wayne County. The poverty rate for the project area is higher than the county, but is lower than the city. However, with the proposed project,

the site will not function differently from its current use. Additional lighting and presence of security at the proposed site would foster a feeling of safety for the neighborhood. The proposed project would enhance visual quality with removal of deteriorating components of the Coolidge Terminal. Further, with the addition of a new storage facility, buses that were previously stored in the surface lot would now be obscured from view of neighboring properties. Vehicle activity to and from the site is not expected to increase so no additional noise impacts are expected. It is anticipated that the proposed project would not have disproportionately high and adverse human health or environmental effects to any minority population or low-income population.

3.11 USE OF PUBLIC PARKS AND RECREATION AREAS

There are no public parks or recreation areas in the project site or in the immediate vicinity of the facility. Two parks (Sawyer Playground and Adams Butzel Park) are located approximately one-half mile from the site. The proposed project will not impact these resources.

3.12 IMPACTS ON WETLANDS

Based on review of National Wetlands Inventory data, Wayne County Soil Survey, and aerial photography, no wetlands are within or adjacent to the project site; therefore, the proposed project will not impact or encroach into a wetland.

3.13 FLOODPLAIN IMPACTS

Flood Insurance Rate Maps (FIRMs) were examined during the preparation of the Categorical Exclusion (Effective Date February 2, 2012; Wayne County, Michigan, Map Number 26163C0100E). The project site does not lie within or adjacent to a floodplain area. The proposed project would not involve encroachment into a designated floodplain (see FIRM in Appendix E).

3.14 IMPACTS ON WATER QUALITY, NAVIGABLE WATERWAYS AND COASTAL ZONES

There are no potential impacts on water quality, navigable waterways, or coastal zones.

During construction of the proposed project, paved and unpaved areas of the 20-acre site will be disturbed (including clearing, grading and excavation). A National Pollutant Discharge Elimination System permit will be required for this project. Project construction will include installation and maintenance of best management practices for erosion and sediment control to minimize erosion and water quality impacts, including the use of inlet protection.

3.15 IMPACTS ON ECOLOGICALLY SENSITIVE AREAS AND ENDANGERED SPECIES

Approximately one acre of vegetation would be removed including approximately 11 trees ranging in diameter from 4 to 15 inches. This vegetation is located on the eastern portion of the site along the perimeter and consists of turf grass, brush/shrubs and deciduous trees.

A request to the U.S. Fish and Wildlife Service (USFWS) to comment on the proposed project with respect to potential impacts to federally threatened or endangered species or their critical

habitat was sent via letter on June 15, 2012. To date, no response has been received. As an alternative, the guidance on the USFWS Region 3 Section 7 Technical Assistance Web site was followed to fulfill the requirements for consultation under Section 7 of the Endangered Species Act. **Table 4** lists the following federally endangered, threatened, candidate, or special concern species for Wayne County.

Table 4: Wayne County Federally Listed Species

Scientific Name	Common Name	Federal Status	Habitat
<i>Myotis sodalis</i>	Indiana bat	Endangered	Summer habitat includes small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. Caves and mines as hibernacula
<i>Sistrurus catenatus</i>	Eastern massasuga	Candidate	Wet areas including wet prairies, marshes and low areas along rivers and lakes
<i>Dysnomia torulosa rangiana</i>	Northern riffleshell	Endangered	Large streams and small rivers in firm sand of riffle areas; also occurs in Lake Erie
<i>Villosa fabalis</i>	Rayed Bean Mussel	Endangered	Smaller, headwater creeks, but they are sometimes found in large rivers
<i>Plantathera leucophaea</i>	Eastern prairie fringed orchid	Threatened	Mesic to wet prairies and meadows

Source: USFWS County Distribution of Federally Listed Threatened, Endangered, Proposed and Candidate Species, Revised February 2012. <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. Web site accessed on November 28, 2012.

Additionally, a request was made on June 15, 2012, to the Michigan State University Extension/Michigan Natural Features Inventory (MNFI) for a rare species review. In a letter dated June 20, 2012 (see Appendix D), the MNFI concluded that, “it is highly unlikely that listed species will be impacted by this activity.”

It is anticipated that due to the urban nature and current industrial use of the site, there would be no adverse impacts to endangered species or ecologically sensitive areas. Suitable habitat is not present in the proposed action area; therefore, species and critical habitat are not present.

3.16 IMPACTS ON SAFETY AND SECURITY

The proposed project would improve safety and security at the site by providing bus storage, lighting, fencing, and a new security system. The new construction and upgrades to the existing facilities on the site would also contribute to the feeling and reality of safety and security in an area of Detroit that suffers from a lack of productive development and a high instance of vacant properties.

3.17 IMPACTS CAUSED BY CONSTRUCTION

Construction impacts will be minimal, as the proposed construction will take place entirely within the existing site. Adjacent residential neighborhoods may experience a temporary increase in noise and may also experience temporary visual effects, both due to presence of construction equipment and activities.

The facility is currently closed and would remain closed during construction activity. The overall traffic flow in the vicinity of the project site will be maintained during the construction period.

3.0 MITIGATION

During the construction phase of the Coolidge Terminal project, all construction activities are specified to be performed in such a way as to minimize to the greatest extent feasible, any noise, air quality and water quality impacts. Temporary short-term increases in noise levels are anticipated during the construction period. Construction noise would be controlled by limiting noise-generating activities to daylight working hours. To reduce noise levels during that period, construction equipment would be kept in good repair to ensure that proper noise muffling is maintained. Heavy construction, such as demolition, would be performed during a limited time period so the community would not be adversely impacted. Standard noise and dust specifications would be followed, in addition to adherence to local ordinances. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. Equipment and machinery installed at the proposed project site would meet all Federal, State, and local noise regulations. Temporary short-term impacts to surface waters could occur during the construction period due to storm water runoff from the site. To reduce potential impacts related to water quality, appropriate best management practices would be implemented during construction, such as installing fabric barriers at storm drain inlets.

Excavation activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable Federal, State and local regulations. Disposal of excess material would be in compliance with the guidelines listed in the standard specifications, and would not occur in wetlands, floodplains, or other sensitive areas. Erosion and sedimentation would be controlled in accordance with an erosion control plan.

No detours on area roadways are anticipated during construction. The appropriate signage and barriers would be in place prior to construction activities to alert pedestrians and passing

motorists of project activities. There would be no disproportionate health and safety risks to minority populations or low-income populations.

The proposed project would consider opportunities to use “green” building concepts in the design and specifications of material for the project. The proposed project would use Leadership in Energy and Environmental Design (LEED) principles, as defined by the United States Green building Council (USGBC), for areas where cost-effective green buildings concepts can be used on the facility design and construction.

There are no displacements with the proposed facility renovations; therefore, no relocation measures would be necessary.

All necessary permits would be obtained and permit conditions would be implemented.

The action described above meets the criteria for a NEPA categorical exclusion in accordance with 23 CFR Part 771.117(d).

Applicant’s Environmental Reviewer

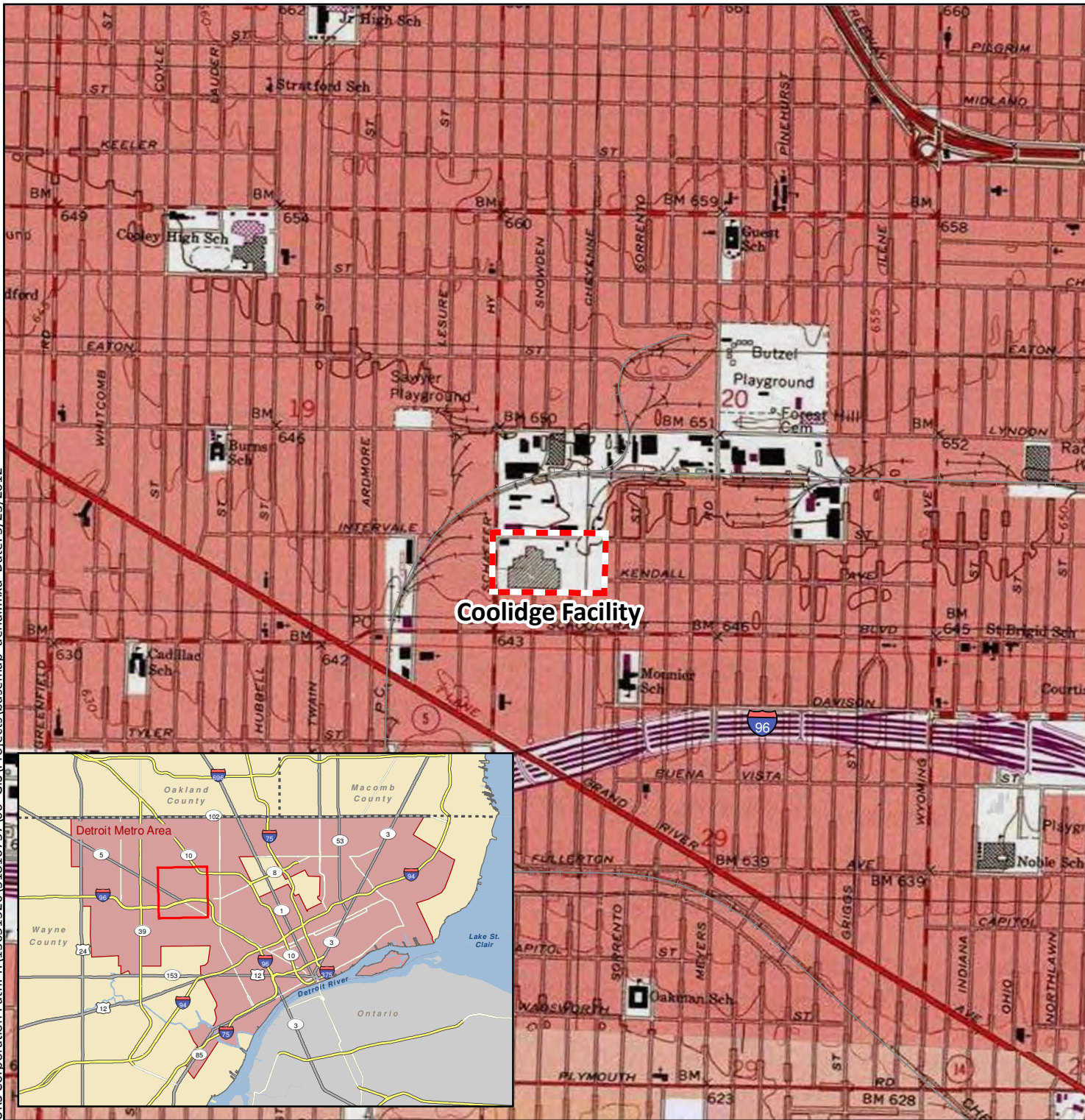
Date

FTA Grant Representative

Date

APPENDIX A
Project Figures

URS Corporation Path: T:\13651326\31810757\06_GIS\Projects\basemap_aerial.mxd Date: 5/23/2012

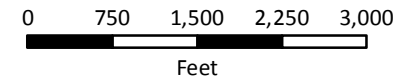


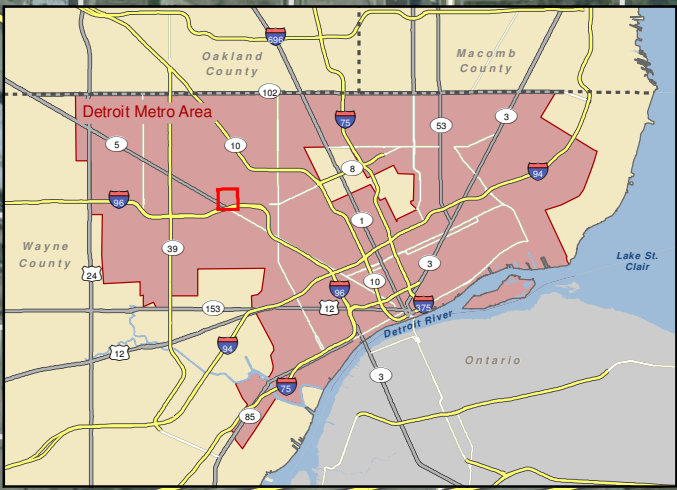
Coolidge Facility Categorical Exclusion

Figure 1
Coolidge Facility Project Location



T1S, R11E, Section 20





Coolidge Facility Categorical Exclusion

Figure 2
Coolidge Facility Project Site

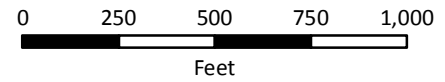


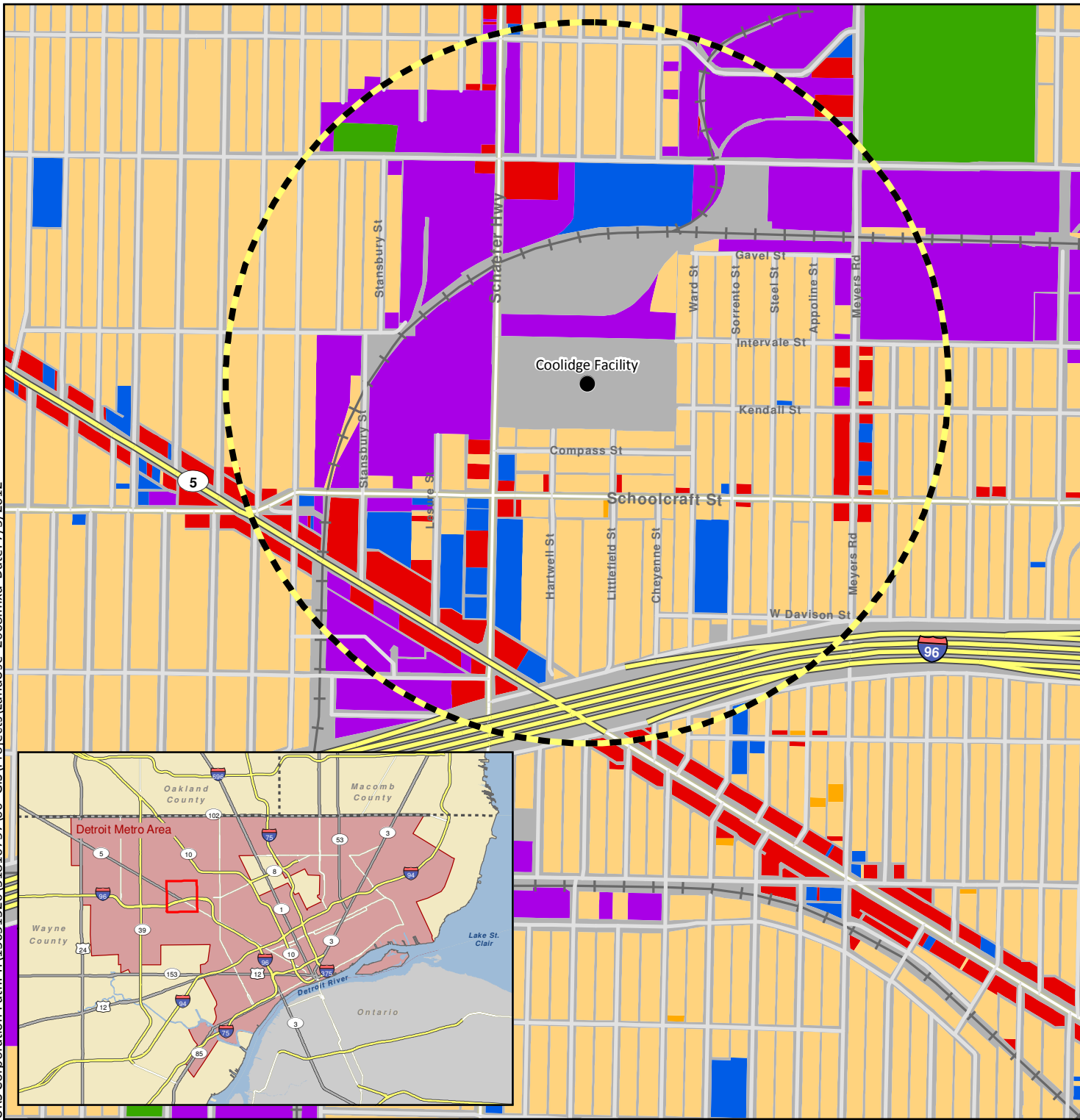
Legend

- Existing
- Proposed New Building
- Remove Building
- Remove and Replace

Additional Buildings:

- | | |
|------------------------|---------------------------|
| 1. Dispatcher Building | 5. Heating Plant Building |
| 2. Guard House | 6. Fare Box Building |
| 3. Terminal Building | 7. 1 Story Brick Building |
| 4. Fueling System Area | 8. Tower Control Building |





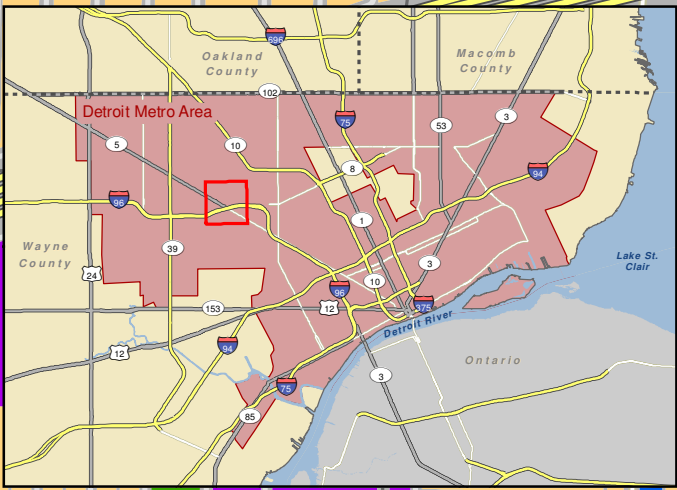
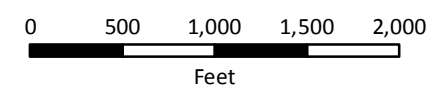
Coolidge Facility Categorical Exclusion

Figure 3
Land Uses near Coolidge Facility



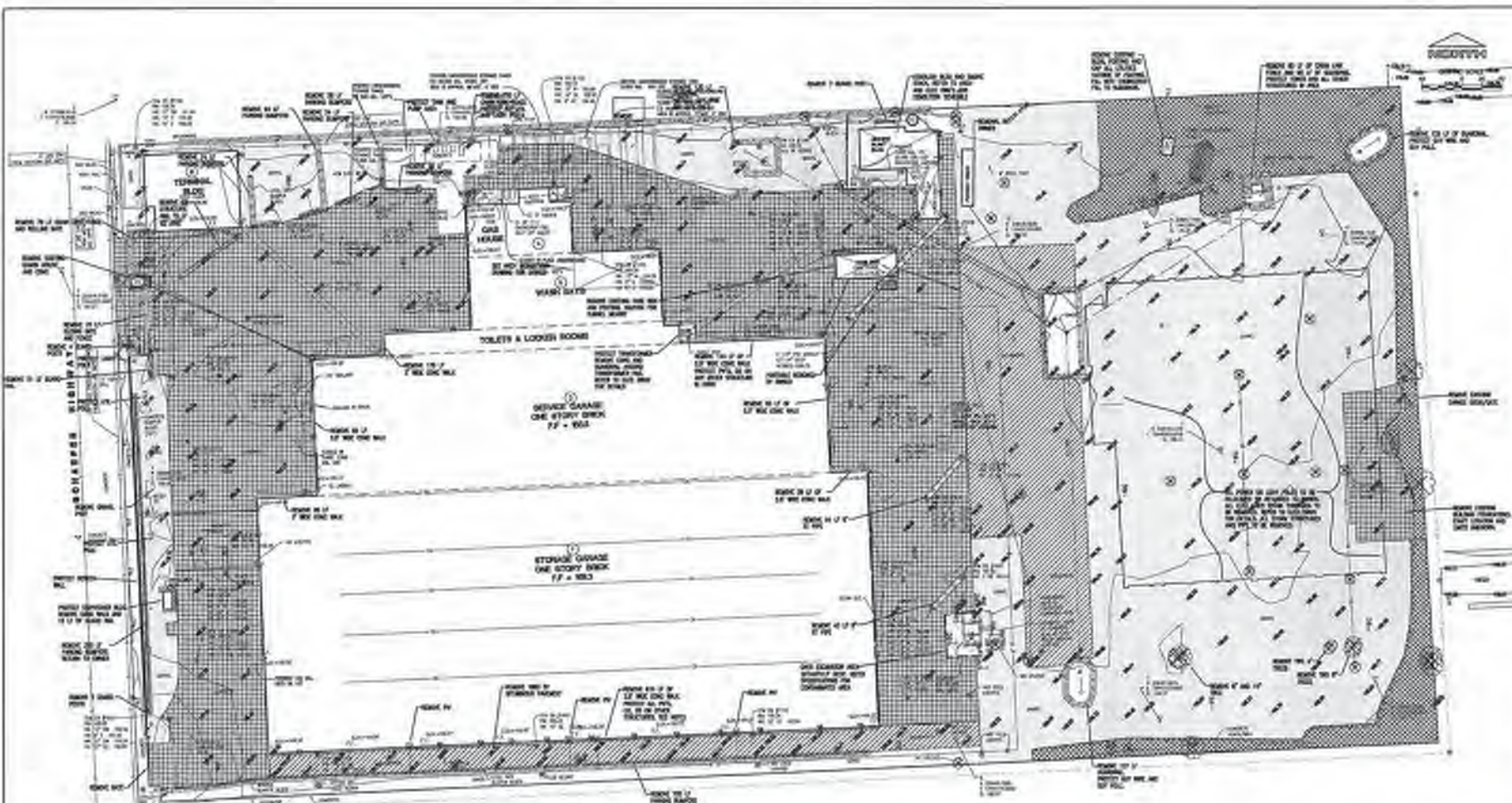
Coolidge Facility 1/2 Mile Buffer

- Single-Family Residential
- Multi-Family Residential
- Commercial
- Industrial
- Institutional
- Parks, Recreation, and Open Space
- Transportation, Communication, and Utilities



APPENDIX B

Site Plans and Fueling System Upgrades



SOIL REMOVAL LEGEND



SITE REMOVAL NOTES

1. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
2. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
3. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
4. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
5. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
6. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
7. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
8. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
9. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.
10. REMOVE ALL SOIL FROM THE AREA OF THE ABOVE NOTED AREAS TO THE TOP OF THE EXISTING GRADE.

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND STORAGE TANKS
REGISTRY AND OPERATIONAL STATUS**

REGISTRY NUMBER	OPERATIONAL STATUS	REGISTRY NUMBER	OPERATIONAL STATUS
17-1002-001	ACTIVE	17-1003-001	ACTIVE
17-1002-002	ACTIVE	17-1003-002	ACTIVE
17-1002-003	ACTIVE	17-1003-003	ACTIVE
17-1002-004	ACTIVE	17-1003-004	ACTIVE
17-1002-005	ACTIVE	17-1003-005	ACTIVE
17-1002-006	ACTIVE	17-1003-006	ACTIVE
17-1002-007	ACTIVE	17-1003-007	ACTIVE
17-1002-008	ACTIVE	17-1003-008	ACTIVE
17-1002-009	ACTIVE	17-1003-009	ACTIVE
17-1002-010	ACTIVE	17-1003-010	ACTIVE
17-1002-011	ACTIVE	17-1003-011	ACTIVE
17-1002-012	ACTIVE	17-1003-012	ACTIVE
17-1002-013	ACTIVE	17-1003-013	ACTIVE
17-1002-014	ACTIVE	17-1003-014	ACTIVE
17-1002-015	ACTIVE	17-1003-015	ACTIVE
17-1002-016	ACTIVE	17-1003-016	ACTIVE
17-1002-017	ACTIVE	17-1003-017	ACTIVE
17-1002-018	ACTIVE	17-1003-018	ACTIVE
17-1002-019	ACTIVE	17-1003-019	ACTIVE
17-1002-020	ACTIVE	17-1003-020	ACTIVE

**UNIDENTIFIED UNDERGROUND
STORAGE TANKS
FOR DETROIT FIRE DEPARTMENT RECORDS**

REGISTRY NUMBER	OPERATIONAL STATUS	REGISTRY NUMBER	OPERATIONAL STATUS
17-1002-021	ACTIVE	17-1003-021	ACTIVE
17-1002-022	ACTIVE	17-1003-022	ACTIVE
17-1002-023	ACTIVE	17-1003-023	ACTIVE
17-1002-024	ACTIVE	17-1003-024	ACTIVE
17-1002-025	ACTIVE	17-1003-025	ACTIVE
17-1002-026	ACTIVE	17-1003-026	ACTIVE
17-1002-027	ACTIVE	17-1003-027	ACTIVE
17-1002-028	ACTIVE	17-1003-028	ACTIVE
17-1002-029	ACTIVE	17-1003-029	ACTIVE
17-1002-030	ACTIVE	17-1003-030	ACTIVE

LOCATION, SIZE & ORIENTATION OF TANKS SHOWN & LISTED ARE APPROXIMATE

LOCATION, SIZE & ORIENTATION OF TANKS SHOWN & LISTED ARE APPROXIMATE

URGENT REMOVAL NOTICE
IF YOU ARE A PROPERTY OWNER OR OCCUPANT OF A PROPERTY WITH AN UNDERGROUND STORAGE TANK (UST) IN THE STATE OF MICHIGAN, YOU MUST REGISTER THE TANK WITH THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ) BY THE END OF 2002.



DATE	11/15/01
SCALE	AS SHOWN
DRAWN BY	C.1.B.
CHECKED BY	
APPROVED BY	

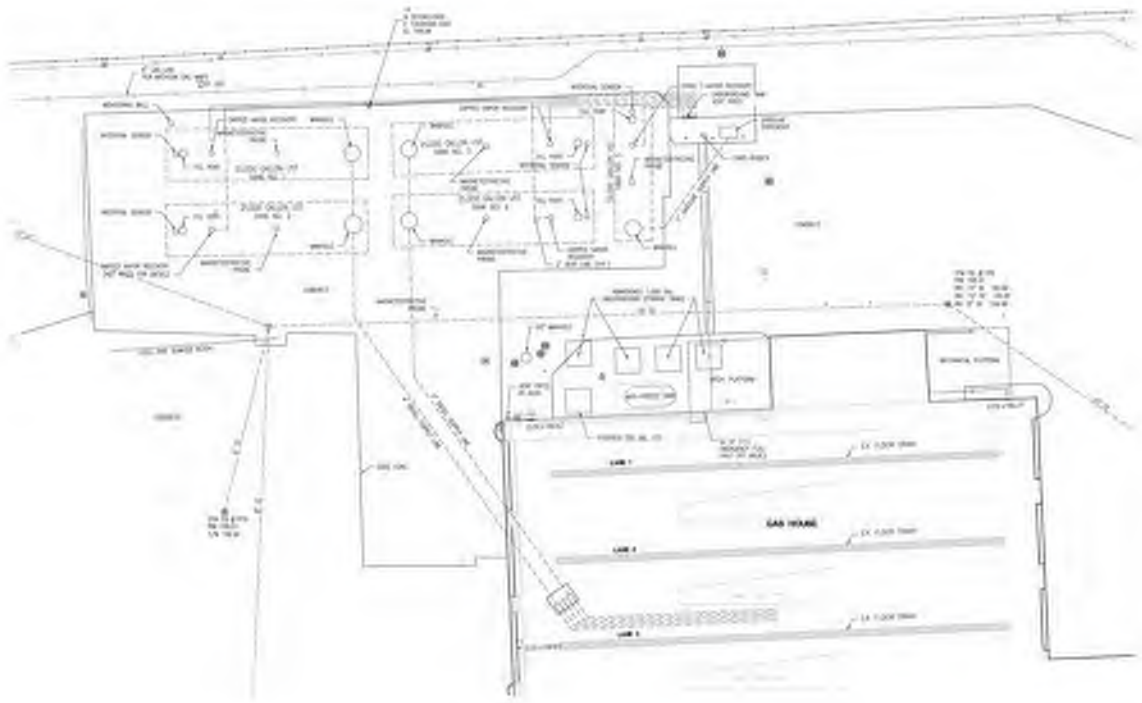


DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
COOLIDGE FACILITY - SITE 70
REMOVAL PLAN

DRAWING
C.1.B.
FILE
1364742

SITE TOPOGRAPHIC

PROPOSED LOT	=====	WATER MAIN	—A—
EXIST	=====	SEWER MAIN	—B—
SEWER	=====	6" WATER	—C—
6" & 8" GAS	=====	6" GAS	—D—
12" GAS	=====	12" GAS	—E—
18" GAS	=====	18" GAS	—F—
24" GAS	=====	24" GAS	—G—
30" GAS	=====	30" GAS	—H—
36" GAS	=====	36" GAS	—I—
42" GAS	=====	42" GAS	—J—
48" GAS	=====	48" GAS	—K—
54" GAS	=====	54" GAS	—L—
60" GAS	=====	60" GAS	—M—
66" GAS	=====	66" GAS	—N—
72" GAS	=====	72" GAS	—O—
78" GAS	=====	78" GAS	—P—
84" GAS	=====	84" GAS	—Q—
90" GAS	=====	90" GAS	—R—
96" GAS	=====	96" GAS	—S—
102" GAS	=====	102" GAS	—T—
108" GAS	=====	108" GAS	—U—
114" GAS	=====	114" GAS	—V—
120" GAS	=====	120" GAS	—W—
126" GAS	=====	126" GAS	—X—
132" GAS	=====	132" GAS	—Y—
138" GAS	=====	138" GAS	—Z—
144" GAS	=====	144" GAS	—AA—
150" GAS	=====	150" GAS	—AB—
156" GAS	=====	156" GAS	—AC—
162" GAS	=====	162" GAS	—AD—
168" GAS	=====	168" GAS	—AE—
174" GAS	=====	174" GAS	—AF—
180" GAS	=====	180" GAS	—AG—
186" GAS	=====	186" GAS	—AH—
192" GAS	=====	192" GAS	—AI—
198" GAS	=====	198" GAS	—AJ—
204" GAS	=====	204" GAS	—AK—
210" GAS	=====	210" GAS	—AL—
216" GAS	=====	216" GAS	—AM—
222" GAS	=====	222" GAS	—AN—
228" GAS	=====	228" GAS	—AO—
234" GAS	=====	234" GAS	—AP—
240" GAS	=====	240" GAS	—AQ—
246" GAS	=====	246" GAS	—AR—
252" GAS	=====	252" GAS	—AS—
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264" GAS	=====	264" GAS	—AU—
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282" GAS	=====	282" GAS	—AX—
288" GAS	=====	288" GAS	—AY—
294" GAS	=====	294" GAS	—AZ—
300" GAS	=====	300" GAS	—BA—
306" GAS	=====	306" GAS	—BB—
312" GAS	=====	312" GAS	—BC—
318" GAS	=====	318" GAS	—BD—
324" GAS	=====	324" GAS	—BE—
330" GAS	=====	330" GAS	—BF—
336" GAS	=====	336" GAS	—BG—
342" GAS	=====	342" GAS	—BH—
348" GAS	=====	348" GAS	—BI—
354" GAS	=====	354" GAS	—BJ—
360" GAS	=====	360" GAS	—BK—
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372" GAS	=====	372" GAS	—BM—
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390" GAS	=====	390" GAS	—BP—
396" GAS	=====	396" GAS	—BQ—
402" GAS	=====	402" GAS	—BR—
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414" GAS	=====	414" GAS	—BT—
420" GAS	=====	420" GAS	—BU—
426" GAS	=====	426" GAS	—BV—
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438" GAS	=====	438" GAS	—BX—
444" GAS	=====	444" GAS	—BY—
450" GAS	=====	450" GAS	—BZ—
456" GAS	=====	456" GAS	—CA—
462" GAS	=====	462" GAS	—CB—
468" GAS	=====	468" GAS	—CC—
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480" GAS	=====	480" GAS	—CE—
486" GAS	=====	486" GAS	—CF—
492" GAS	=====	492" GAS	—CG—
498" GAS	=====	498" GAS	—CH—
504" GAS	=====	504" GAS	—CI—
510" GAS	=====	510" GAS	—CJ—
516" GAS	=====	516" GAS	—CK—
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528" GAS	=====	528" GAS	—CM—
534" GAS	=====	534" GAS	—CN—
540" GAS	=====	540" GAS	—CO—
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594" GAS	=====	594" GAS	—CX—
600" GAS	=====	600" GAS	—CY—
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690" GAS	=====	690" GAS	—DN—
696" GAS	=====	696" GAS	—DO—
702" GAS	=====	702" GAS	—DP—
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714" GAS	=====	714" GAS	—DR—
720" GAS	=====	720" GAS	—DS—
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780" GAS	=====	780" GAS	—EC—
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876" GAS	=====	876" GAS	—ES—
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894" GAS	=====	894" GAS	—EV—
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978" GAS	=====	978" GAS	—FJ—
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1272" GAS	=====	1272" GAS	—HG—
1278" GAS	=====	1278" GAS	—HH—
1284" GAS	=====	1284" GAS	—HI—
1290" GAS	=====	1290" GAS	—HJ—
1296" GAS	=====	1296" GAS	—HK—
1302" GAS	=====	1302" GAS	—HL—
1308" GAS	=====	1308" GAS	—HM—
1314" GAS	=====	1314" GAS	—HN—
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1356" GAS	=====	1356" GAS	—HU—
1362" GAS	=====	1362" GAS	—HV—
1368" GAS	=====	1368" GAS	—HW—
1374" GAS	=====	1374" GAS	—HX—
1380" GAS	=====	1380" GAS	—HY—
1386" GAS	=====	1386" GAS	—HZ—
1392" GAS	=====	1392" GAS	—IA—
1398" GAS	=====	1398" GAS	—IB—
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1410" GAS	=====	1410" GAS	—ID—
1416" GAS	=====	1416" GAS	—IE—
1422" GAS	=====	1422" GAS	—IF—
1428" GAS	=====	1428" GAS	—IG—
1434" GAS	=====	1434" GAS	—IH—
1440" GAS	=====	1440" GAS	—II—
1446" GAS	=====	1446" GAS	—IJ—
1452" GAS	=====	1452" GAS	—IK—
1458" GAS	=====	1458" GAS	—IL—
1464" GAS	=====	1464" GAS	—IM—
1470" GAS	=====	1470" GAS	—IN—
1476" GAS	=====	1476" GAS	—IO—
1482" GAS	=====	1482" GAS	—IP—
1488" GAS	=====	1488" GAS	—IQ—
1494" GAS	=====	1494" GAS	—IR—
1500" GAS	=====	1500" GAS	—IS—
1506" GAS	=====	1506" GAS	—IT—
1512" GAS	=====	1512" GAS	—IU—
1518" GAS	=====	1518" GAS	—IV—
1524" GAS	=====	1524" GAS	—IW—
1530" GAS	=====	1530" GAS	—IX—
1536" GAS	=====	1536" GAS	—IY—
1542" GAS	=====	1542" GAS	—IZ—
1548" GAS	=====	1548" GAS	—JA—
1554" GAS	=====	1554" GAS	—JB—
1560" GAS	=====	1560" GAS	—JC—
1566" GAS	=====	1566" GAS	—JD—
1572" GAS	=====	1572" GAS	—JE—
1578" GAS	=====	1578" GAS	—JF—
1584" GAS	=====	1584" GAS	—JG—
1590" GAS	=====	1590" GAS	—JH—
1596" GAS	=====	1596" GAS	—JI—
1602" GAS	=====		



REVISIONS

NO.	DATE	DESCRIPTION

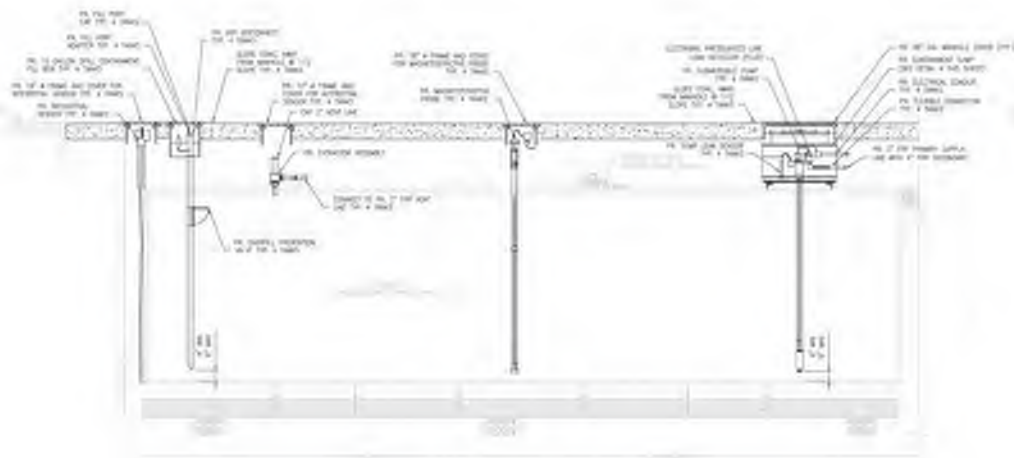
DATE	BY	CHKD.	APP'D.

DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
 COOLIDGE FACILITY - FUELING SYSTEM UPGRADES
 DETROIT, MICHIGAN
URS
 100 W. WABASH AVENUE, SUITE 2000
 CHICAGO, IL 60601

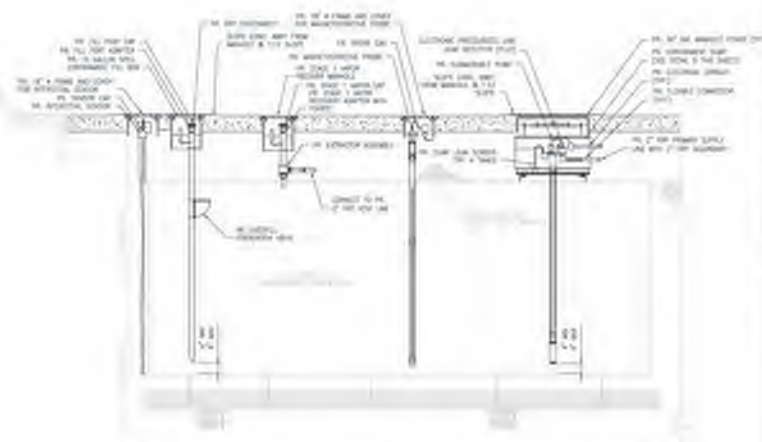
DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
COOLIDGE FACILITY - FUELING SYSTEM UPGRADES
DETROIT, MICHIGAN
TOPOGRAPHIC SURVEY

DRAWING
C0.1
 FILE
 31610691

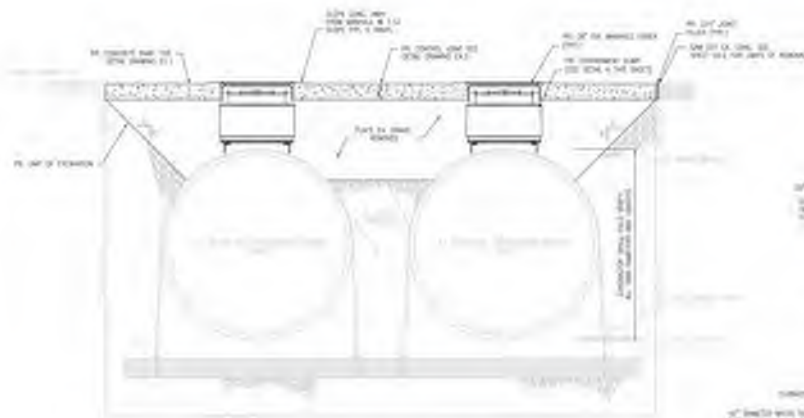
URS CORPORATION
 100 W. WABASH AVENUE, SUITE 2000
 CHICAGO, IL 60601
 TEL: 312.420.1000
 FAX: 312.420.1001
 WWW.URS.COM



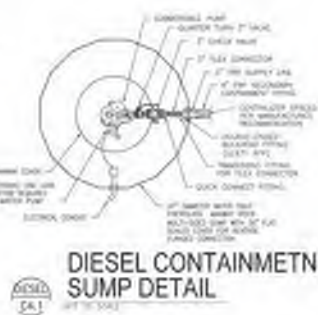
**25,000 GALLON DIESEL
UNDERGROUND TANK SECTION**



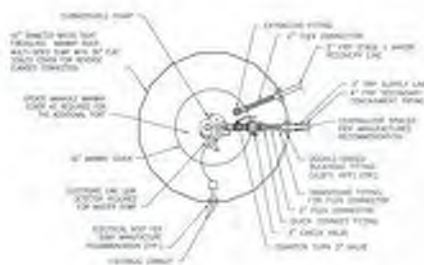
**10,000 GALLON GASOLINE
UNDERGROUND TANK SECTION**



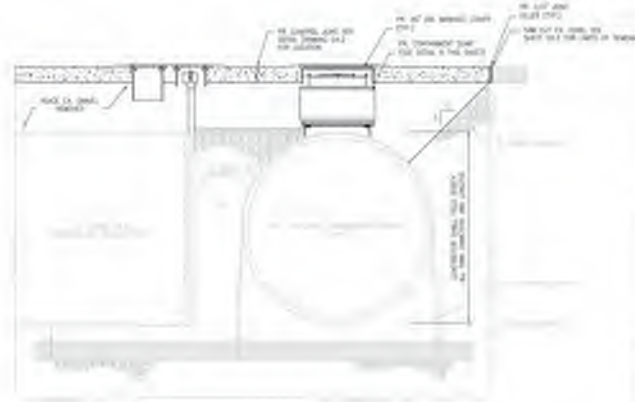
**25,000 GALLON DIESEL
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**DIESEL CONTAINMENT
SUMP DETAIL**



**GASOLINE
CONTAINMENT SUMP DETAIL**



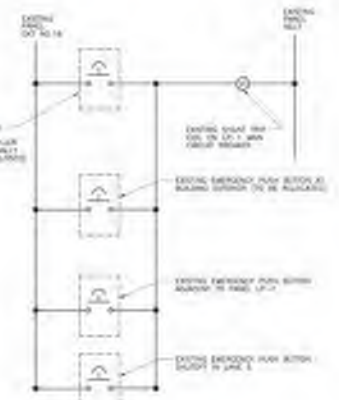
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- NOTES**
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 2. CHECK FOR ALL TANKS, ALL DIMENSIONS ARE REQUIRED FOR REPLACEMENT OF TANKS.
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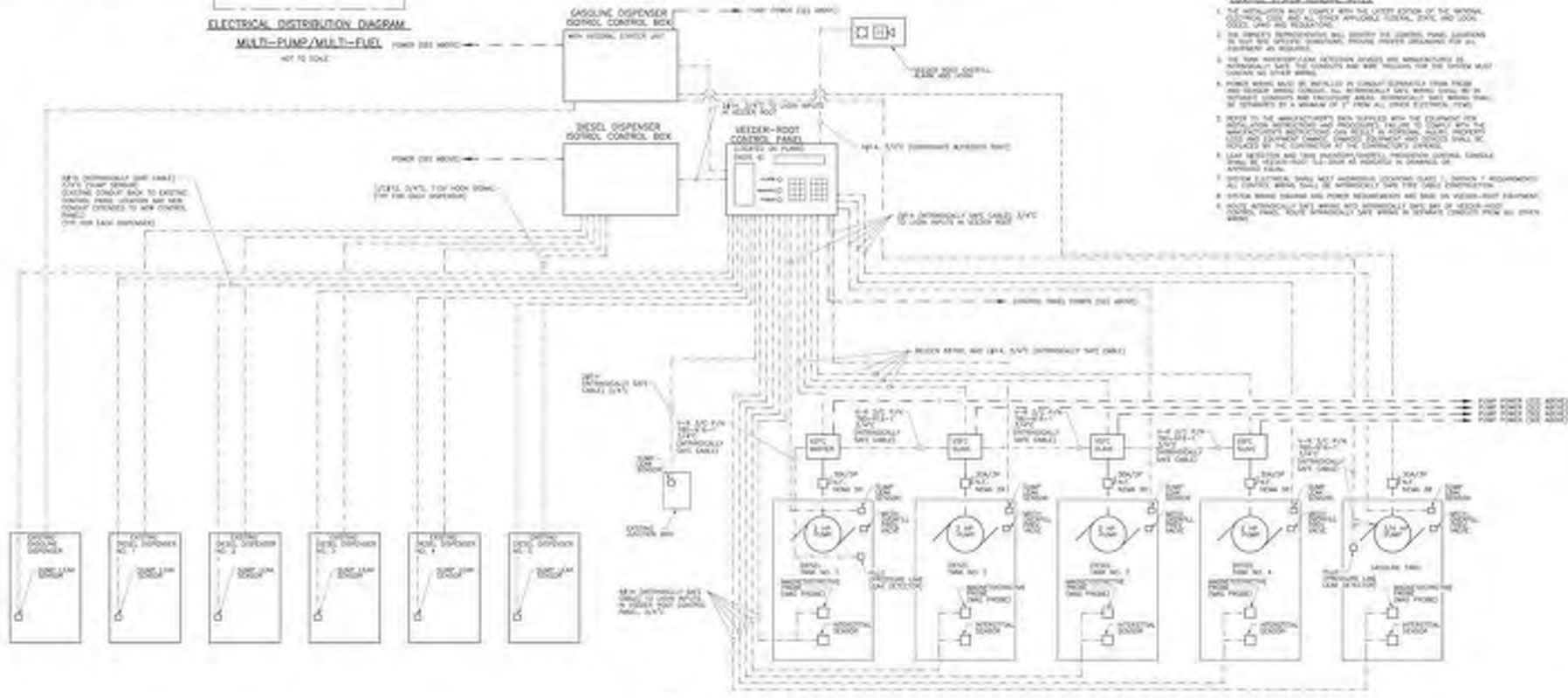
URS
 DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
 COOLIDGE FACILITY - FUELING SYSTEM UPGRADES
 DETROIT, MICHIGAN
 TANK SECTIONS & DETAILS
 DRAWING
C41
 FILE
 31618891



**ELECTRICAL DISTRIBUTION DIAGRAM
MULT-PUMP/MULT-FUEL**
NOT TO SCALE



FUELING STATION EMERGENCY SHUTOFF
NOT TO SCALE



CONTROL SCHEMATIC
NOT TO SCALE

CONTROL SYSTEM GENERAL NOTES

1. THE OPERATOR MUST CONSULT WITH THE UTILITY OFFICE OF THE NATIONAL GRID, DETROIT, MI, FOR ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS.
2. THE SAFETY REPRESENTATIVE WILL VERIFY THE CONTROL PANEL, INCLUDING ALL THE SAFETY COMPONENTS, BEFORE BEING ALLOWED FOR ALL EQUIPMENT AS REQUIRED.
3. THE TOOL REPRESENTATIVE/SAFE REPRESENTATIVE WILL BE RESPONSIBLE FOR APPROVING SAFE FOR CONSTRUCTION AND SAFE REPRESENTATIVE FOR THE SAFETY OF THE WORKERS AT OTHER SITES.
4. POWER SOURCE MUST BE IDENTIFIED IN CONTROL SCHEMATIC FROM PANEL AND CONTROL WIRE CONNECTIONS. ALL IDENTIFIABLE DATA WIRING SHALL BE IN CONTROL SCHEMATIC AND CONTROL WIRE IDENTIFICATION WILL BE IDENTIFIED BY A NUMBER OR 'F' FROM ALL OTHER ELECTRICAL DRAWINGS.
5. REFER TO THE IDENTIFICATION DATA SHEETS WITH THE EQUIPMENT FOR THE SAFETY OF THE OPERATOR AND PROTECTIVE DEVICES TO BE USED WITH THE EQUIPMENT. THE SAFETY OF THE OPERATOR AND PROTECTIVE DEVICES TO BE USED WITH THE EQUIPMENT WILL BE IDENTIFIED BY A NUMBER OR 'F' FROM ALL OTHER ELECTRICAL DRAWINGS.
6. LOW VOLTAGE AND HIGH VOLTAGE SAFETY REPRESENTATIVE CONTROL SCHEMATIC WILL BE IDENTIFIED BY A NUMBER OR 'F' FROM ALL OTHER ELECTRICAL DRAWINGS.
7. OTHER ELECTRICAL DRAWINGS MAY APPLICABLE CONTROL CLASS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
8. OTHER SAFETY RELATED AND POWER REPRESENTATIVE WILL BE IN VEHICLE-ROOT CONTROL SCHEMATIC. POWER SOURCE IDENTIFICATION WILL BE IDENTIFIED BY A NUMBER OR 'F' FROM ALL OTHER ELECTRICAL DRAWINGS.

KEYED ELECTRICAL DEMOLITION NOTES:

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- 2. EXISTING PUMP CONTROL TO BE DEMOLISHED AND NEW PUMP CONTROL TO BE INSTALLED IN LANE 1 TO BE DEMOLISHED.
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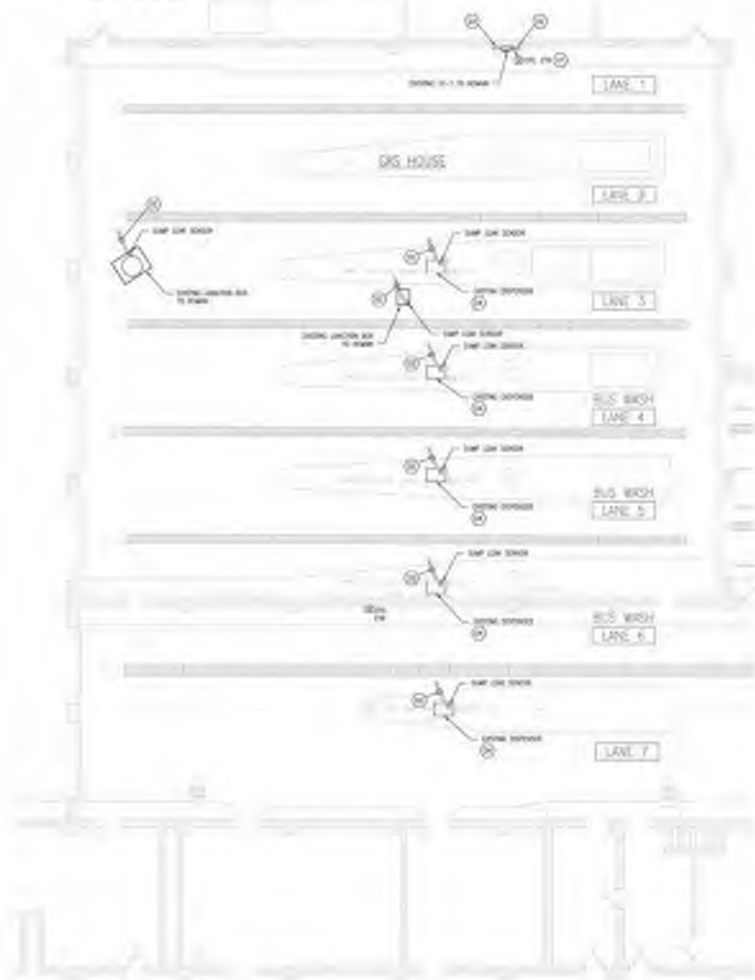
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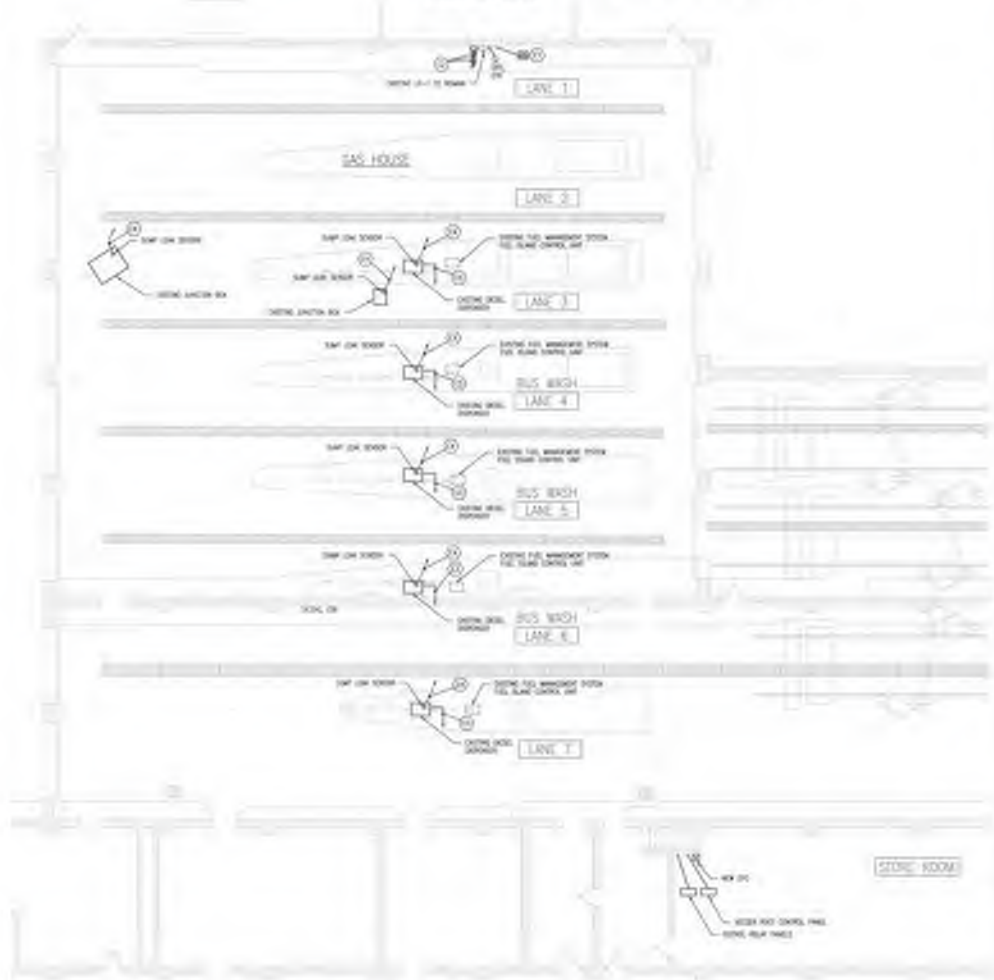
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GENERAL ELECTRICAL NOTES:

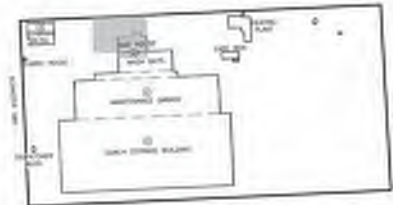
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- 5. ALL ELECTRICAL WORK TO BE INSTALLED IN ACCORDANCE WITH THE DEMOLITION CONTRACT AND ALL APPLICABLE REGULATIONS.



FLOOR PLAN ELECTRICAL DEMOLITION



FLOOR PLAN ELECTRICAL NEW WORK



KEY MAP

URS CORPORATION
 11111 E. Riverchase Lane
 Suite 200
 Houston, TX 77036
 Tel: 281.436.7000
 Fax: 281.436.7001
 www.urscorp.com

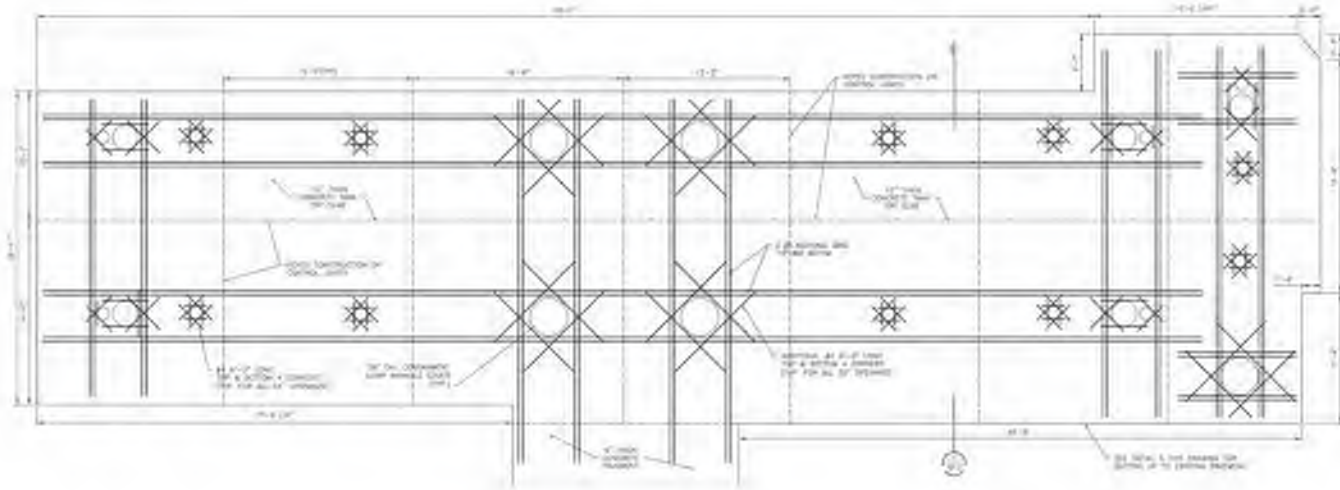
DATE	BY	CHKD	APP'D

URS CORPORATION
 11111 E. Riverchase Lane
 Suite 200
 Houston, TX 77036
 Tel: 281.436.7000
 Fax: 281.436.7001
 www.urscorp.com

URS

DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
 COOLIDGE FACILITY - FUELING SYSTEM UPGRADES
 DETROIT, MICHIGAN
 INTERIOR ELECTRICAL DEMOLITION & NEW WORK PLAN

DRAWING
ED12
 FILE
 31615691



APPENDIX C

Architectural and Historical Evaluation of the Coolidge Terminal

August 2012

**ARCHITECTURAL AND HISTORICAL
EVALUATION OF THE
COOLIDGE TERMINAL,
DETROIT, WAYNE COUNTY, MICHIGAN**

Prepared for

**URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN, 55402
United States**

Prepared by

**COMMONWEALTH CULTURAL RESOURCES GROUP, INC.
2530 SPRING ARBOR ROAD
JACKSON, MICHIGAN 49203-3602**

**Elaine Robinson, Principal Investigator
Evelyn Tidlow, Project Manager**

August 2012

R-1002.01

ABSTRACT

In 2012, Commonwealth Cultural Resources Group, Inc. (CCRG) was hired by the URS to update the 2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County, Michigan. The proposed project is receiving federal funding from Federal Transit Administration (FTA) and, therefore, must comply with the National Environmental Policy Act and Section 106 of the National Historic Preservation Act of 1966, as amended. The analysis focused on the effects of the proposed project on the social, natural and built environment.

The Coolidge Terminal facility construction project proposes to modernize and improve existing D-DOT equipment, buildings and property, as well as new construction. The proposed project would be contained at the site and upon completion would result in the facility returning to its normal operations. Included in the proposed plan are interior work on the existing buildings, repair and/or replacement of roofs on existing buildings, demolition and removal of the existing fare box building and the existing boiler/power house, and the construction of a new fare box building and coach storage building. Other improvements would include fueling system upgrades, new concrete pavement and curbs, new guardrail system, upgrading locker rooms, rehabilitation of the terminal (administration) building, replacement of existing perimeter fencing, a new security system, interior painting and lighting upgrades, new primary electrical service and a new emergency generator system.

CCRG carried out a site visit to the Coolidge Terminal facility in April 2012, during which the property was extensively toured and photographed. At the same time, a review of the project Area of Potential Effect (APE) was completed. The APE identified by CCRG remains the same as was identified in 2003 for a project carried out by Ms. Betsy Bradley of URS, and includes only those properties immediately adjacent to the Coolidge Terminal or those directly across the street from the facility on Schaefer Highway. Additional background material was sought and the property history updated to include information on the 2011 fire at the facility.

As a result of the work carried out by CCRG, it was determined that the Coolidge Terminal property does meet the National Register of Historic Places Criteria for Evaluation under Criterion A as representative of the City of Detroit's move to modernize the public transportation system in the city during the post-World War II era. This decision means that the two planned building demolitions will have an adverse effect on the property as will the planned new Fare Building construction. No cultural resources within the APE outside the Coolidge Terminal meet the NRHP Criteria for Evaluation and therefore would not be affected by any of the planned activities.

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1.0 INTRODUCTION

In 2012, Commonwealth Cultural Resources Group, Inc. (CCRG) was hired by the URS to update the 2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County, Michigan. The proposed project is receiving federal funding from FTA and, therefore, must comply with the National Environmental Policy Act and Section 106 of the National Historic Preservation Act of 1966, as amended. The analysis will focus on the effects of the proposed project on the social, natural and built environment. Therefore, a review is required to determine if the proposed project may affect any historic properties that are eligible for listing in the National Register of Historic Places (NRHP).

The Coolidge Terminal facility construction project proposes to modernize and improve existing D-DOT equipment, buildings and property, as well as new construction. The proposed project would be contained at the site and upon completion would result in the facility returning to its normal operations. Proposed construction would not result in any additional taking of land; therefore, no acquisitions or relocations are required.

The proposed project includes interior work on the existing buildings, repair and/or replacement of roofs on existing buildings, demolition and removal of the existing fare box building and the existing boiler/power house, and the construction of a new fare box building and a coach storage building. Other improvements would include fueling system upgrades, new concrete pavement and curbs, new guardrail system, upgrading locker rooms, rehabilitation of the terminal (administration) building, replacement of existing perimeter fencing, a new security system, interior painting and lighting upgrades, new primary electrical service and a new emergency generator system.

The Coolidge Terminal property project is located at 14044 Schaefer Highway, Detroit, Michigan (Figure 1.0-1). Geographically, this is in the SW ¼ of Section 20, T1S/R11E, Greenfield Township, Wayne County. The site is located east of Schaefer Highway just north of Schoolcraft Street and south of Lyndon Street. The historic assessment documents the Terminal Building, Bus Storage Building, Bus Maintenance Building, Bus Washing Building, Gate House, Heating Plant, Fare Box House, Communications Tower, and an unused Dispatch Building. Additionally, properties within the surrounding study area are defined and assessed.

1.1 PROJECT METHODOLOGY AND NATIONAL REGISTER OF HISTORIC PLACES CRITERIA OF EVALUATION

The documentation of the Coolidge Terminal was undertaken in several phases. Initial work included gathering basic background information from the Library of Michigan, Lansing; the Burton Historical Collection, Detroit Public Library; and through review of previous documentation and online materials.

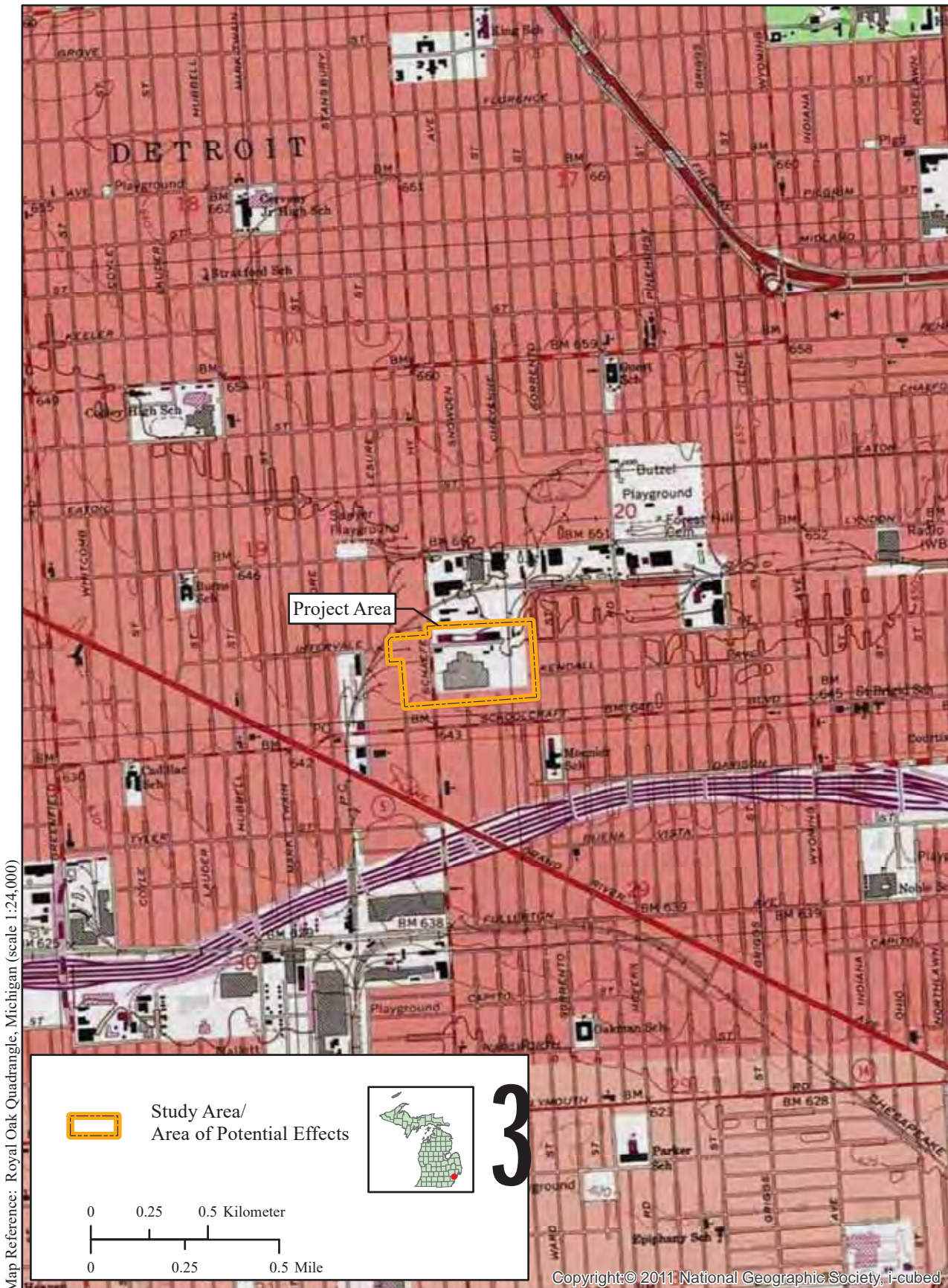


Figure 1.0-1. Coolidge Terminal Location

Upon the completion of gathering the background information, a visit was paid to the Coolidge Terminal site and the surrounding area. Here, photos of the property were taken, notes on the associated resources compiled, and a sketch plan of the site completed.

It was during this phase of the research that the appropriate area of potential effects (APE) for the project was determined to be limited to those properties that are immediately adjacent to, or within the viewshed of, the Coolidge Terminal site. This includes dwellings on the north side of Compass Street, south of the Coolidge Terminal; west side of Ward Street, east of the Coolidge Terminal; and both west and east side of Schaefer Highway between Compass Street on the south and the property immediately north of the Coolidge Terminal at 14226 Schaefer Highway (Figure 1.1-1). Each of the properties within the APE was also surveyed, from the public-right-of-way, including photographs and notes on historic integrity.

As previously stated, the primary purpose of examining the Coolidge Terminal was to determine its eligibility for listing in the NRHP. To be eligible for listing in the NRHP, a resource must typically be 50 years old or older. It must also exhibit integrity of location, design, setting, materials, workmanship, feeling, or association and meet one or more of four NRHP criteria:

- A. Association with events that have made a significant contribution to the broad patterns of history;
- B. Association with the lives of persons significant in the past;
- C. Embodiment of distinctive characteristics of a type, period, or method of construction; representative of the work of a master; possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction; or
- D. Ability to yield information important in prehistory or history.

1.2 ORGANIZATION OF THE REPORT

Chapter 1.0 introduces the project and provides background on the survey methods. Chapter 2.0 presents historical background for the development of Coolidge Terminal. Chapter 3.0 presents the description and architectural/historical evaluation of the facility, as well as the integrity assessment and NRHP evaluation. Chapter 4.0 offers conclusions and recommendations. Chapter 5.0 contains a comprehensive list of references cited in the body of the report. Appendix A is a full set of survey forms for the Coolidge Terminal and the buildings in the surrounding Area of Potential Effect (APE). Appendix B includes images of the properties located in the APE. Appendix C includes project plans.

Evelyn Tidlow served as the project manager. Elaine Robinson served as the principal investigator and primary author of the report. James Montney prepared the supporting graphics.

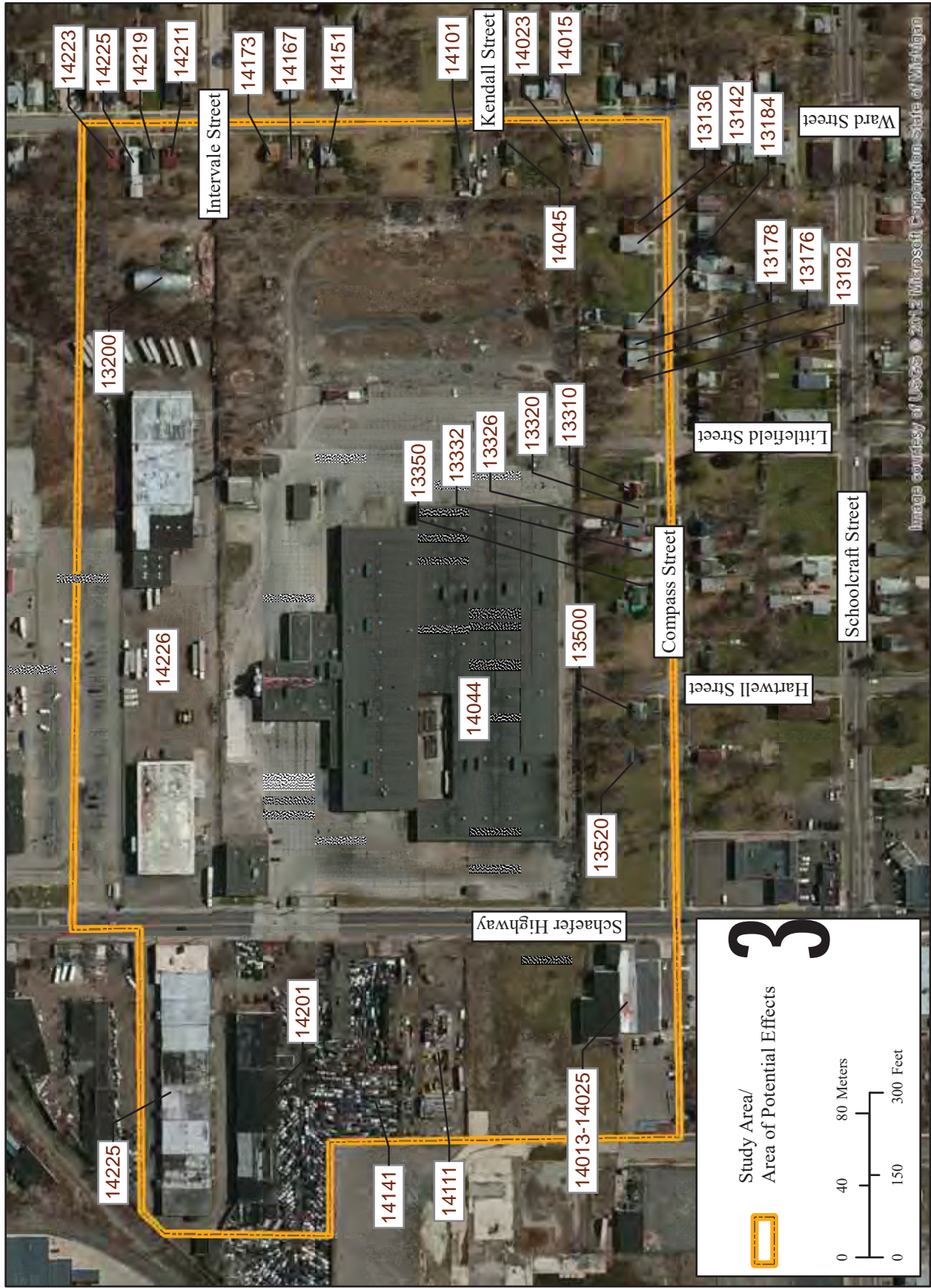


Figure 1.1-1. Coolidge Terminal Study Area/Area of Potential Effects

2.0 HISTORIC CONTEXT

2.1 AREA DEVELOPMENT

The Coolidge Terminal site is located in Section 20, T1S/R11E. Originally known as Greenfield Township, the township was annexed by the City of Detroit in 1926 (United States Department of Commerce 1931:532). Plats were filed for the area south and east of the Coolidge Terminal property between 1914 and 1916. These areas include the properties within the project APE on Compass and Ward streets (Figure 2.1-1 to 2.1-3). There are two plats filed for the west side of Schaefer Highway, Plat of Josapine (sic) Caplers Estate in Greenfield and Christian Perrot's Subdivision of Lot or Devise No. 2 of Josephine Caplers Estate on Sections 19 and 30 (Figures 2.1-4 and 2.1-5) (Greenfield 1892, 1913). The Josaphine Capler's Estate plat was filed in 1892, while the subdivision was made in 1913.

Over time, there have been some changes to the original plats. For instance, in the Happy Homes Subdivision, the plat lists Monnier Road, which was subsequently called Coolidge Highway (thus giving the name to the bus terminal) and later to Schaefer Highway (Greenfield 1914). Additionally, Liberty Avenue is now known as Compass Street. In the Greenlawn Subdivision and Greenlawn Subdivision No. 1, Helmuth Avenue is now known as Ward Street. Finally, in the Greenlawn Subdivision No. 1 plat, Emily Avenue is known as Gravel Street (Greenfield 1915a, 1915b).

The area around the Coolidge Terminal includes both commercial/industrial and residential properties (see Figure 1.1-1). For the most part, the commercial/industrial properties are limited to lining both sides of Schaefer Highway. All of the residential properties are located on either Compass Street south of the Coolidge Terminal or Ward Street to the east of the terminal property. The lone exception to the division of commercial/industrial and residential is the former Smith Bros. Electric shop at 13200 Intervale Street. The property, which was constructed in 1946, appears to be vacant in 2012 (Bradley 2003:4-3).

As is noted above, the platted sections of the APE were established in the mid-1910s, although it appears that the earliest buildings in either the commercial/industrial areas or residential sections of the APE were erected in the mid-1920s. In addition to the complex of structures associated with the Coolidge Terminal, there are seven commercial/industrial buildings in the APE and 24 residential properties in the APE. Construction of these resources occurred in two major waves of development, with the first taking place between 1922 and 1929. During this time, two of the commercial properties were erected and 14 of the residential buildings. The next major phase of development began in the late 1930s and extended to approximately 1960. These buildings take into consideration the post-World War II building boom and include four of the commercial/industrial buildings and nine of the residential structures. Only two of the properties in the APE were constructed after 1960, including one commercial/warehouse and one residence, both constructed ca. 1970. Given that the most recent completed building in the APE was erected ca. 1970, this means that all of the above-ground resources are over 40 years old and therefore need

Dec. 18-1915
C. J. J. J.

GREENLAWN SUBDIVISION

OF THE S.E. 1/4 OF THE S.W. 1/4 OF SEC. 20
T.15.R.11E., WAYNE CO. MICHIGAN.
GREENFIELD TWP.

SCALE 1"=150'

ALL DIMENSIONS ARE IN FEET AND TENTHS THEREOF



name
Greenlaw Subdiv
52
3.3
52
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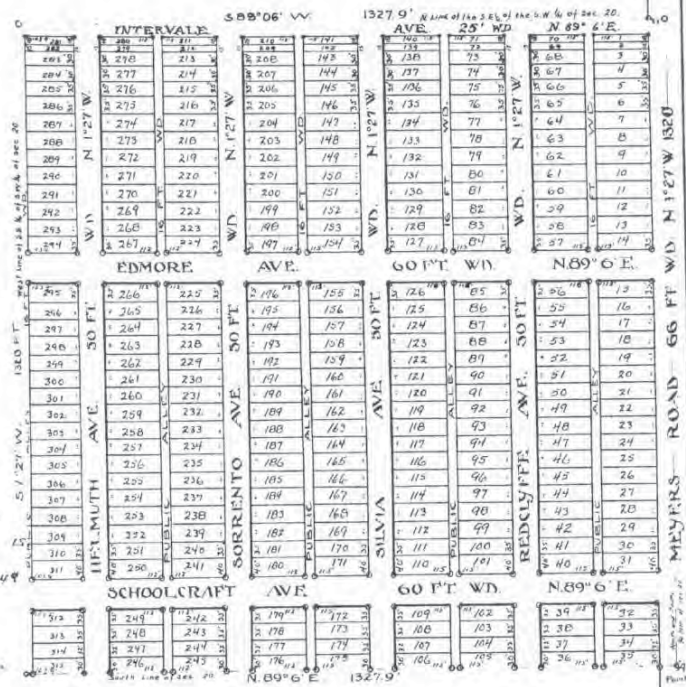
L. L. House

Dec. 21-1915

248 77 W

Greenlaw 15

Greenlaw 15
Greenlaw 15



The land embraced in the annexed plat of Greenlaw Subdivision of the S.E. 1/4 of the S.W. 1/4 of Sec. 20, T.15.R.11E., Wayne Co. Michigan is described as follows: Beginning of the S.E. corner of the S.W. 1/4 of Sec. 20, running thence N 45° W along the North and South 1/4 line 1320 ft., thence S 89° 6' W along the West line of the S.E. 1/4 of the S.W. 1/4 of said sec. 20, 1327.4 ft., thence S 1° 29' W along the West line of S.W. 1/4 of said sec. 20, 1320 ft. to the southerly line of sec. 20; thence N 89° 6' E, along said southerly line 1327.4 ft. to the point of beginning.

Witness my hand and seal of said office this 15th day of December, 1915.

Greenlaw Subdivision of the S.E. 1/4 of the S.W. 1/4 of Sec. 20, T.15.R.11E., Wayne Co. Michigan

President:
Secretary:

Witness my hand and seal of said office this 15th day of December, 1915.

and I, *John P. ...*, who being sworn by me duly sworn did say that they are the President and Secretary respectively of the Greenlaw Home Co. a Michigan Corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation, by authority of its Board of Directors and the said *John P. ...* acknowledge said instrument to be the free act and deed of said corporation.

Figure 2.1-2. reenlawn Su division Plat

"Greenlawn Subdivision Plat"

BEING THE S 1/2 OF THE NE 1/4 OF THE
S.W. 1/4 OF SEC 20, T.15. R.11E., GREENFIELD
TWP. WAYNE CO. MICH.

SCALE 1" = 100'
DIMENSIONS IN FEET AND DECIMALS

*May 18-1916
Geo L. Haines*

2357



2 copies for file

Wm. J. Salliotte

May 21 1916

Wm. J. Salliotte

May 21 1916

STATE OF MICHIGAN
County of Wayne }
City of Detroit }
I, *Wm. J. Salliotte*, Secretary of the Board of Directors of the Greenlawn Subdivision Plat, do hereby certify that the above and foregoing is a true and correct copy of the original plat as filed in my office on the 15th day of May, 1916.

The land embraced in the annexed plat of Greenlawn Subdivision Plat, being the S 1/2 of the NE 1/4 of the SW 1/4 of sec. 20, T.15. R.11E. Greenfield Twp. Wayne Co. Mich. is described as follows: Beginning at the S.E. corner of the NE 1/4 of the SW 1/4 of said Sec. running thence N 1/2° W along the east line of said SW 1/4 660 ft. thence S 25° 15' 18" W to the west line of the NE 1/4 of the SW 1/4, thence S 25° 15' 18" W along said line 661 ft. to the S. line of the NE 1/4 of the SW 1/4, thence along said S. line 100 ft. 1327-9 ft. to the point of beginning.

*Wayne
Greenlawn Subd Plat No 1
May 16 1916
Geo L. Haines*

Rowell W. Wood

*May 18 1916
Geo L. Haines*

*May 20 1916
Geo L. Haines*

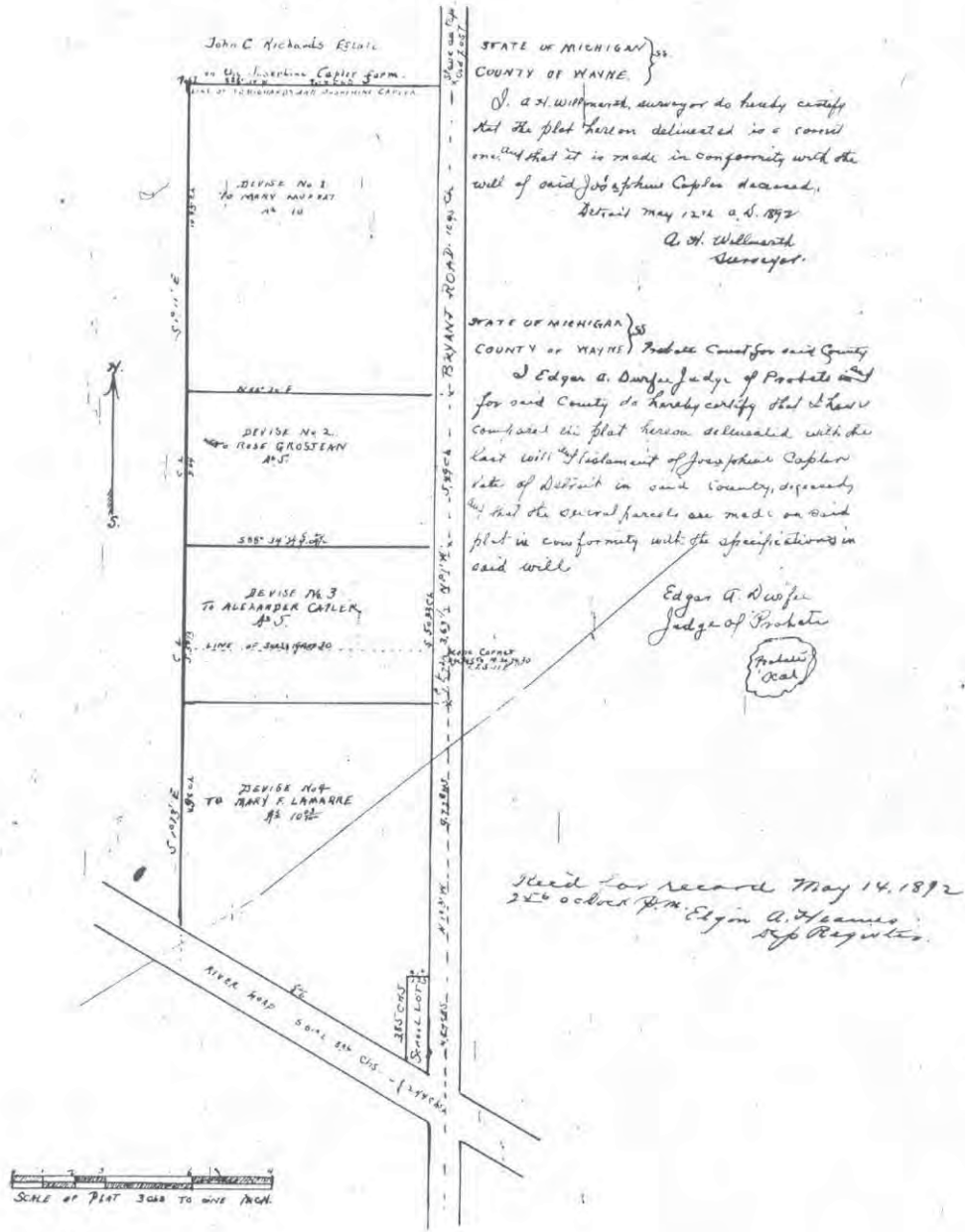
APPROVED BY THE BOARD OF COUNTY
AUDITORS OF WAYNE COUNTY MICH THIS
DAY OF May 1916
Geo L. Haines CHAIRMAN

Wayne County Treasurer's Office
Detroit Mich. APR 24 1916
I hereby certify that according to the Records of this Office, all Taxes for five years prior to the 1st day of April, 1916 are paid and that there are no Tax Liens or Titles held by the State or any individual against the above described property.

Arthur J. ...
WAYNE COUNTY TREASURER

Figure 2.1-3. reenlawn Su division o. 1 Plat

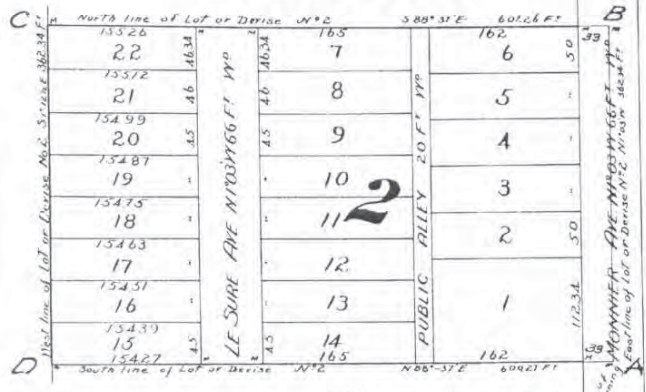
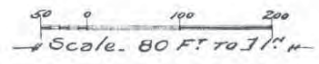
PLAT OF JOSAPHINE CAPLERS ESTATE
 IN GREENFIELD, ON SECTIONS 19 AND 20 IN T. 15. N. 11.
 WAYNE COUNTY, MICHIGAN.



Source: reenfield 18 2

Figure 2.1-4. Plat of Josaphine Caplers Estate

CHRISTIAN PERROT'S SUB^N of LOT or DEVISE N^o 2 of Josephine Capler's Estate ON SEC'S 19 & 30, T.18.R.11E. GREENFIELD, WAYNE CO., MICH.



Examined and Approved
MAY 3-1913

Geo. S. Hawley
Deputy Register

NOT APPROVED by these presents, that we, CHRISTIAN PERROT and CHRISTINE PERROT his wife, proprietors, have agreed to be and be a part of the map of CHRISTIAN PERROT'S SUBDIVISION of LOT or DEVISE N^o 2 of Josephine Capler's Estate on SEC'S 19 & 30, T.18.R.11E. Presumably, Wayne Co., Mich., by the said Christian Perrot, his wife, and the heirs and assigns of the said Christian Perrot and his wife, have shown to the satisfaction of the said...

Witness our hands and seals this seventh day of May, 1913.
In presence of: Christian Perrot, (160)
Geo. S. Hawley, (160)
Christine Perrot, (160)

Title of Plat: ...
Date of Plat: ...
Quantity of Plat: ...

On this seventh day of May, 1913, the said Christian Perrot and his wife, Christine Perrot, have agreed to be and be a part of the map of CHRISTIAN PERROT'S SUBDIVISION of LOT or DEVISE N^o 2 of Josephine Capler's Estate on SEC'S 19 & 30, T.18.R.11E. Presumably, Wayne Co., Mich., by the said Christian Perrot, his wife, and the heirs and assigns of the said Christian Perrot and his wife, have shown to the satisfaction of the said...

Geo. S. Hawley
Deputy Register

The said map is a subdivision of the land of the said Christian Perrot and his wife, Christine Perrot, and is a part of the map of CHRISTIAN PERROT'S SUBDIVISION of LOT or DEVISE N^o 2 of Josephine Capler's Estate on SEC'S 19 & 30, T.18.R.11E. Presumably, Wayne Co., Mich., by the said Christian Perrot, his wife, and the heirs and assigns of the said Christian Perrot and his wife, have shown to the satisfaction of the said...

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REGISTER'S OFFICE
Geo. S. Hawley
Deputy Register

FILED IN REGISTER'S OFFICE
MAY 8-1913
Geo. S. Hawley
Deputy Register

Wayne County Treasurer's Office
MAY 2 1913

Wm. J. Threlker
WAYNE COUNTY TREASURER

APPROVED BY THE BOARD OF COUNTY
AUDITORS OF WAYNE COUNTY MICH. THIS
25th DAY OF MAY 1913
Wm. J. Threlker CHAIRMAN
W. J. Threlker

Figure 2.1-5. Christian Perrot's Subdivision of Lot or Devise No. 2 of Josephine Capler's Estate

to be considered as possibly meeting the basic age requirement established by the National Park Service as the guideline for including properties in the NRHP.

The 31 properties within the APE and outside the Coolidge Terminal are listed below in Table 2.1-1 with their location, property type, date of construction, and evaluation regarding NRHP eligibility. Each property is also plotted on an aerial presented in Figure 1.1-1.

Table 2.1-1. Above-Ground Resources within the Project APE (not including Coolidge Terminal property)

Address	Property Type	Date of Construction	NRHP Eligible	Appendix B Figure Number
13136 Compass Street	Domestic-single family	1926	No	B-1
13142 Compass Street	Domestic-single family	1925	No	B-2
13176 Compass Street	Domestic-single family	1928	No	B-3
13178 Compass Street	Domestic-single family	1925	No	B-4
13184 Compass Street	Domestic-single family	1925	No	B-5
13192 Compass Street	Domestic-single family - VACANT	1955	No	B-6
13310 Compass Street	Domestic-single family	1938	No	B-7
13320 Compass Street	Domestic-single family	1960	No	B-8
13326 Compass Street	Domestic-single family	1960	No	B-9
13332 Compass Street	Domestic-single family- VACANT	1922	No	B-10
13350 Compass Street	Domestic-single family	1946	No	B-11
13500 Compass Street	Domestic-single family	1949	No	B-12
13520 Compass Street	Domestic-single family - VACANT	1957	No	B-13
13200 Intervale Street	Commercial -VACANT	1946	No	B-14
14013-14025 Schaefer Highway	Commercial	c. 1950	No	B-15
14111 Schaefer Highway	Commercial	1925	No	B-16
14141 Schaefer Highway	Commercial	1945	No	B-17
14201 Schaefer Highway	Commercial	1925	No	B-18
14225 Schaefer Highway	Commercial	1945	No	B-19
14226 Schaefer Highway	Commercial	c. 1970	No	B-20
14015 Ward Street	Domestic-single family	c. 1970	No	B-21
14023 Ward Street	Domestic-single family	1954	No	B-22
14045 Ward Street	Domestic-single family	1923	No	B-23
14101 Ward Street	Domestic-single family	1955	No	B-24
14151 Ward Street	Domestic-single family - VACANT	1926	No	B-25
14167 Ward Street	Domestic-single family	1920	No	B-26
14173 Ward Street	Domestic-single family	1926	No	B-27
14211 Ward Street	Domestic-single family	1928	No	B-28
14219 Ward Street	Domestic-single family	1929	No	B-29
14225 Ward Street	Domestic-single family	1929	No	B-30
14223 Ward Street	Domestic-single family- VACANT	1928	No	B-31

2.2 DETROIT STREET RAILWAY TO DETROIT DEPARTMENT OF TRANSPORTATION

2.2.1 Detroit Street Railway

The City of Detroit was established in 1702, and by 1845 the first public hacks (or horses available for hire) were on the streets of the community. Just two short years later a line of street omnibuses was introduced principally running along Jefferson Avenue (Catlin 1926:573). Street railways were introduced in New York featuring horse-drawn cars along a line built in 1832-1833 (Catlin 1926:573). In Detroit, the first street railway franchise was granted on May 24, 1862. Over the next quarter-century, the streetcar industry grew dramatically across the city, with Detroit boasting several privately held companies that provided transportation services. These firms were granted permission by the city of Detroit to carry out business within the city but were owned and operated entirely by private enterprise. Even when most of the streets of the city were unpaved or paved with decaying or decayed cedar blocks laid on a dirt foundation, streetcar tracks were located in the center (Caitlin 1926:593). Early transportation systems included horse-drawn cars on Jefferson and Woodward avenues. By the final decade of the century, electric streetcars were introduced and a few years later trolley lines utilizing the technology replaced the earlier horse-drawn lines (Bradley 2003:3-1).

In 1892, Detroit mayor Hazen S. Pingree advocated for a municipally owned street railroad system (Bradley 2003:3-1); however, obstacles including legal battles, a state constitution amendment, and revised Detroit City Charter resulted in the move being delayed for almost four decades. Finally, in 1920, the citizens of Detroit voted to construct municipal lines and the city then purchased extant rail lines from the private operating companies. On May 15, 1922, the City of Detroit's Detroit Street Railway (DSR) began operation under the auspices of the Street Railway Commission (Department of Street Railways [DSR] 1938:30).

Under the new ownership of the DSR, Detroit's street railway system expanded to include the Shoemaker Car House in 1922 and the Coolidge Car House in 1928. By 1930, the City of Detroit operated the largest street railway system in the United States (Bradley 2003:3-1). Not surprisingly, ridership on the DSR peaked in the late 1920s (O'Geran 1931:xiii).

2.2.2 Transition to Coaches

One of the ways that widespread voter approval for the establishment of the municipally owned DSR was achieved was the promise that they would soon establish transit service to the newly settled subdivisions surrounding Detroit (Schramm et al. 1980:29). To do this, first the construction of the lines needed to be completed. This proved to be a huge problem particularly with the growing cost of rail lines. To solve this issue, the DSR turned instead to the motor bus, or coach as they were known at the time.

In spite of the cost savings by the use of coaches over the miles and miles of new rail construction, then-Mayor James Couzens felt that the reliability of the automotive industry at the

time would not support the type of service required by Detroit. Given that Couzens was considered to be an expert on rubber-tired transportation due to a former association with the Ford Motor Company, his opinion held some sway. As a result, the earliest attempt to operate a bus by the DSR came on November 19, 1922 (Schramm et al. 1980:29). The first line established served the Dodge Export Plant formerly accessible by the Lynch Road Line. The plant, constructed as an ordnance plant during World War I, was originally served by the Detroit United Railway (DUR) but discontinued after the Armistice, when business gradually fell off. By October 1921 the rail service was discontinued and the tracks removed (Schramm et al. 1980:29). At the request of the Milwaukee Junction Manufacturers Association, service was reinstated on the line using three single-decker buses.

These first buses included two rented vehicles and a new Fageol coach purchased for \$7,000.00 (Schramm et al. 1980:29). In spite of the request to maintain the line, with the five-cent fare and providing no transfers to another line, the DSR was unable to make the line pay. Eventually the service was assumed by a competing company who raised the rates. By November 8, 1924, the DSR re-laid the original track and the route continued using streetcars (Schramm et al. 1980:29). Just a few months later, the first permanent bus line opened as an extension of the Mack car line. This route utilized Dodge-Graham coaches and operated from Hart Loop to the new city limits at Cadieux Road.

At the same time the DSR was getting its coach systems up and running, there were several competitive systems in the Metro Detroit area. The first, Detroit Motorbus, operated inside the city limits, and was the firm that assumed control of the Lynch Road Line in 1923. This firm had its rights to operate within the city limits revoked in January 1932 and the DSR assumed all routes they had established. Meanwhile, several suburban based bus lines were organized. These included Lakeshore Coach Lines operating in the Grosse Pointe area and the Dearborn Coach serving the western suburbs (Schramm et al. 1980:53). These lines remained separate from the DSR and operated as part of the Southeastern Michigan Transportation Authority (SEMTA). The two services operated in conjunction with each other, with DSR operating only in the City of Detroit, and SEMTA buses using a “closed door” after entering the city limits to restrict competition.

In the 1930s the popularity of the bus over the streetcar continued to grow. Initially streetcar lines were manned with small buses (carrying about 25 passengers each) during evening and weekend hours. The use of buses also helped the DSR deal with a growing labor expense problem, bypassing the union’s demand that their contract required two-man crews, a motorman and conductor. By 1939 the DSR had rail-bus service on 20 lines and three lines converted entirely to buses (Bradley 2003:3-2). As older equipment began to require replacement, the DSR again made the decision to replace with buses, acquiring 800 buses by the end of the decade (DSR 1937:4; Schramm et al. 1980:64, 65, 71).

The 1945 annual report of the DSR boasted that the agency was the “first of Detroit’s municipal departments to unfold a completely practical and startlingly modern post-war improvement plan” (DSR 1945:23). On August 19, 1945, not long after VJ Day and the end of World War II, the

DSR announced their plans to modernize bus service. This would be the last time that public transportation would figure higher in regional planning than the development of freeways and the accommodation of private automobiles (Bradley 2003:3-2).

The plan announced by the DSR included the purchase of 80 streetcars and over 300 of the larger 45-passenger buses (DSR 1945:23-37). This occurred about the same time planning for the improvements or new designs for Grand River, John C. Lodge, Hastings, and Crosstown expressways had been approved and scheduled for construction. Part of the plan also included the construction of at least seven DSR terminals, such as the Coolidge Terminal, at strategic places in the outlying areas of the city. Additionally, the plan called for the construction of surface parking lots for passengers to gather in outlying areas of the city, high speed bus lines, and downtown sub-surface terminals associated with underground pedestrian concourses. The later action would move pedestrian traffic away from congested streets resulting in better driving conditions for everyone (DSR 1945:23-27).

Although plans were developed, there were a number of obstacles working against their implementation. Strikes, litigation, material and equipment shortages, and the industrial conditions of the post-war period slowed the plan. In spite of these delays, in 1946 the first components of the modernization plan were underway, including the construction of a 200-coach service and storage garage at the old Shoemaker Car House (DSR 1946:4, 9). Firmly behind the modernization program, in March 1946, the Street Railway Commission approved the development of the Gilbert Terminal to service buses. This move also prompted the reconstruction of the Coolidge Terminal, converting it from streetcar to bus service (Schramm et al. 1980:87, 89).

The Gilbert and Coolidge terminals were essential to keeping the growing fleet of buses serviced and running. At the end of each day on the road, buses were serviced and their operating conditions assessed. Full inspections were scheduled for 3,000- and 6,000-mile intervals with more extensive work done every 50,000 miles, and automatic washing bays allowed for the washing of coaches at least once a week (DSR 1947:15-16). The Gilbert and Coolidge terminals could carry out the smaller checks on buses, but for more extensive work and repair projects the coaches were taken to the shop at the Highland Park Terminal. With the addition of the new terminals and repair facilities, the DSR was able to even further expand their number of coaches to just under 2,300 in 1948 (DSR 1948:5).

As part of the modernization program, in 1947 the DSR decision to abandon streetcar service on all but one of the routes called for the use of 40 to 50 passenger buses (*Bus Transportation* 1947:87). When confronted with criticism that this move would put men out of work the DSR responded by pointing out that buses carried fewer passengers than the streetcars resulting in an increase in the number of vehicles needed to service a route.

2.2.3 Detroit Department of Transportation

On July 1, 1974, under the new City of Detroit charter, the former DSR became Detroit Department of Transportation, or D-DOT (DSR Coach Lines History, Excerpts and Miscellaneous, Part 2, Burton Historical Collection, Detroit Public Library, Detroit). This move replaced the three-man commission with a seven-member advisory commission that could only make recommendations about the D-DOT but had no operating authority (Schramm et al. 1980:271).

2.3 COOLIDGE TERMINAL PROJECT

2.3.1 Harley, Ellington and Day, Architects and Engineers

The three partners in the firm of Harley, Ellington and Day, came together over a long period of time. The first of the partners to make his way to Detroit was Alvin E. Harley, who moved in 1890 as a young man with his family from his birthplace in Manitoba, Canada, to London, Ontario, a point about half-way between the two industrial cities of Buffalo, New York, and Detroit, Michigan (Harley Ellis Devereaux [HED] 2008:3). Due to the greater opportunities in the city, Harley was able to gain work as a draftsman, firmly establishing his career path toward architecture. In 1903, at the age of 19, Harley relocated to Detroit, where he took an apprenticeship first with the firm of Albert Kahn and later George D. Mason (HED 2008:5).

By 1908, Harley established his first architectural firm with fellow Mason firm alumnus Norman Atcheson. This firm was responsible for designs of the 1912 Globe Theater on Grand River at Trumbull and the Henry Clay Hotel on Centre Street near Grand Circus. The firm lasted just four years, ending in 1912 when Harley established his solo practice (HED 2008:7). Just two years later Harley won a major commission to design and construct an English cottage-style structure in Bloomfield Hills for Hugh Chalmers, founder and president of Chalmers Motor Company (HED 2008:7). This commission launched his career as a designer for the city's elite, including residences in the newly established Detroit neighborhood of Palmer Woods, Grosse Pointe Park, and Bloomfield Hills (HED 2008:7-8). Although the residential business was lucrative, Harley was also able to complete a number of commercial and industrial buildings during the same time period.

During the early career of Harley, another young designer was getting his start in Chicago. Harold Slight Ellington studied engineering at the Armour Institute (now Illinois Institute of Technology), graduating in 1908 (HED 2008:9). Early career efforts included working as the chief engineer for Standard Concrete Construction Company. Here Ellington designed reinforced concrete structures for buildings, bridges, and breweries. By 1912, his efforts with breweries provided an opportunity for Ellington to work for Julius Stroh as the plant and construction manager for Stroh Brewing Company (HED 2008:9). In 1917, when Prohibition took effect in Michigan, Ellington was able to transfer his efforts as construction engineer to J. B. Book and his brothers. While the association with the Book Brothers only lasted two years, it provided ample opportunity for Ellington to gain expertise in the design of modern office

buildings, such as the 14-story Book Building and the 22-story Washington Boulevard Building (HED 2008:10).

In 1912 Ellington moved to Detroit and eventually entered the firm of Giaver, Dinkelberg and Ellington, Architects and Engineers. This firm lasted only a few years, and Ellington moved on to partner in the firm of Weston and Ellington (HED 2008:11). This firm gained prominence working on health care projects, including several nurses residences associated with Detroit area hospitals, and later the Burtha Fisher Home for the Aged and the Sarah Fisher Home for Children. Weston and Ellington was also known for their industrial designs, including commissions for Howard Flint Ink Company and a series of pumping stations and service garages for the Detroit City and Gas Company (HED 2008:12).

With the advent of the Great Depression, like most architectural and design firms, Weston and Ellington were struggling as they entered the 1930s. Then, in 1932, Weston died, leaving Ellington without a partner. This was about the same time that Alvin Harley was also struggling having based much of his business in the 1920s on construction of massive residences. The shared circumstances drew Haley and Ellington together, who agreed in 1933 to merge their businesses, naming the new firm Harley and Ellington, Architects and Engineers (HED 2008:13). Among the projects that are attributed to Harley and Ellington are the Book Building, Stroh Building, Real Estate Exchange Building, and the Stroh Products Company (Romig 1935).

In 1943, the third partner of Harley, Ellis and Day joined the firm. Clarence E. Day Sr., a native of Detroit, spent his early career designing homes for the area's social elite, including officers of Ford and General Motors. Traveling extensively in Europe for inspiration, Day worked in a variety of styles, but is perhaps best known for the Tudor Revival style residence known as Moulton Manor, the home of William E. and Nina Scripps in Lake Orion, Michigan (HED 2008:19). Like other professionals of the same time period, the Depression greatly curtailed his business, and Day disbanded his company and worked from his home between 1935 and 1937, where he turned his attention to large-scale residential projects. This effort resulted in working with Harley and Ellington on the Frederick Douglas homes in 1942, and ultimately paved the path to partnership for the men (HED 2008:19).

Working together, the firm expanded their practice winning projects such as the design of a new hospital in Macomb County, cemeteries and mausoleums around the county, and the design and construction of the 16 buildings that formed the Coldwater (Michigan) State Home and Training School (HED 2008:21). In the mid-1940s the firm began a long-term association with the University of Michigan gaining a reputation for its work on civic and cultural buildings. This experience led to the commission to design Detroit's Veterans Memorial Building, and their role in redesigning Detroit's transportation system, including renovations to Detroit's Fort Street Union Rail Depot, the design of six new garages for the Detroit Department of Street Railways, and in 1948, Detroit's Greyhound bus terminal and service garage (HED 2008:22). Other major commissions included the Detroit City-County Building, now known as the Coleman A. Young Municipal Center, the Army Finance Center at Ft. Benjamin Harrison near Indianapolis, Indiana, the State Department Building in Washington D.C., Hazel Park Recreation Building, the

Dearborn Civic Center, breweries for Schlitz and Anheuser-Busch, and collegiate architecture when they were named the chief architect for the University of Detroit (HED 2008:21-26).

Currently known as Harley Ellis Deveraux, the firm celebrated its centennial anniversary in 2008.

2.3.2 History of the Coolidge Terminal Facility

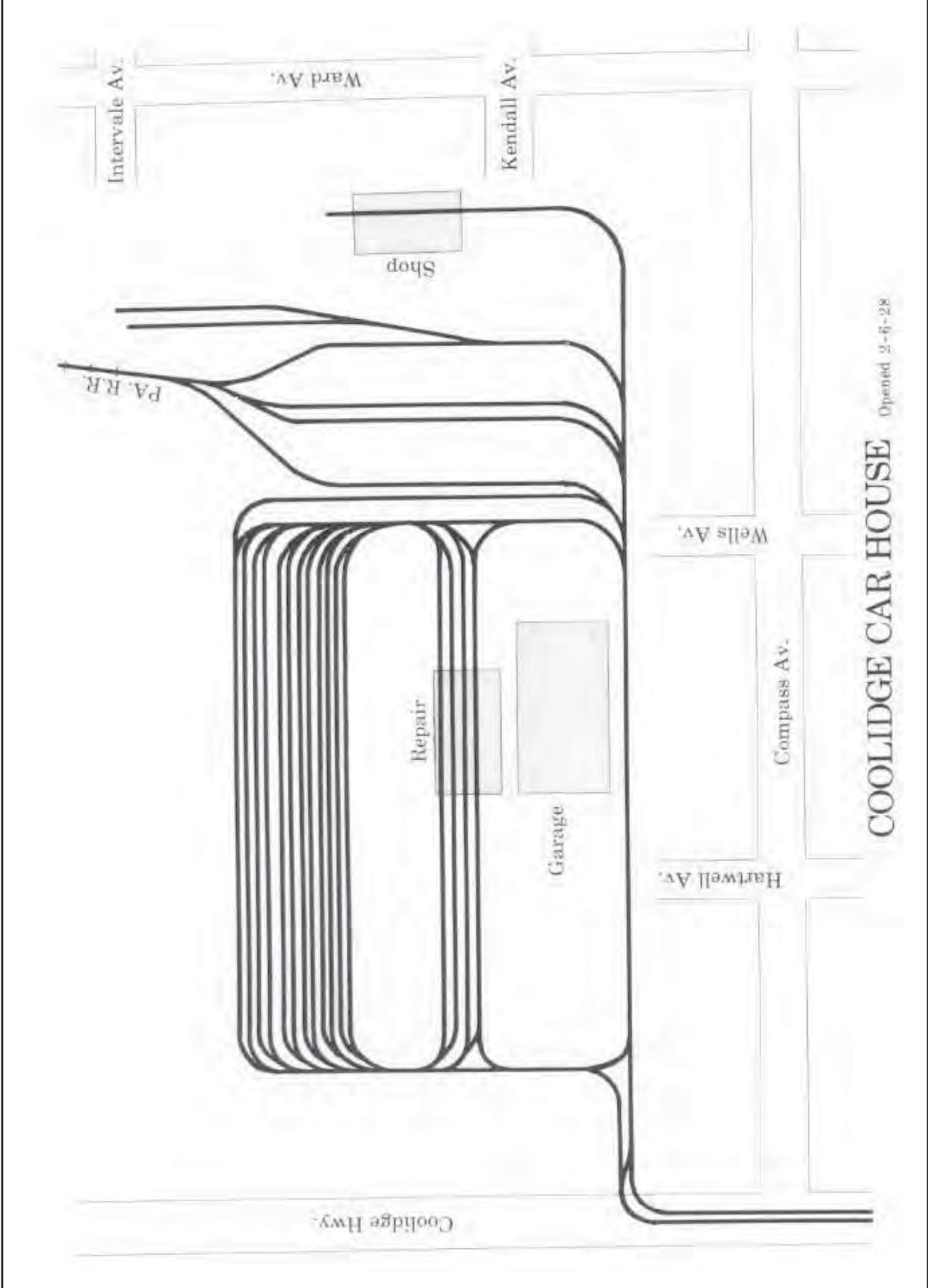
Between 1921 and 1926 a large portion of surrounding land was annexed to the northwest corner of the City of Detroit (Figure 2.3.2-1) (Detroit Planning Department 1985). More specifically, it was in 1924, that the city, trying to keep pace with the burgeoning need produced by the automotive industry and those who moved to the city to work in the shops, annexed the portion of Greenfield Township, Wayne County, where the Coolidge Terminal would later be constructed. The specific property associated with the terminal was listed in a real estate atlas in 1923 as a 20-acre parcel owned by M. Bryant (Bradley 2003:3-11). At the time Schaefer Highway was known as Monnier Road which boasted sparse industrial development, several plats for single-family homes, and the crossing of the Pennsylvania & Detroit Railway line (Baist 1923:59).

The Coolidge Terminal, located at 14044 Schaefer Highway, was constructed as a car house (trolley)/bus garage and opened on February 26, 1928. The Coolidge Terminal, located about midway on the Grand River Avenue route, was the third streetcar barn built under the city-owned municipal system, and DSR operation, but the first facility constructed by the City of Detroit to serve both trolley cars and buses, or as they were called at the time, coaches (Detroit Transit Facilities [DTF] 2012; Detroit Transit History [DTH] 2009). Between June 4, 1930 and August 11, 1937 the facility housed Trolley buses.

When first constructed, the facility had a rail line entering the property at the southeast corner, with parallel rail lines covering the west-central portion of the property. A second set of sidings running on a north/south axis occupied the eastern side of the property, providing a connection to the Pennsylvania & Detroit Railway which crossed Monnier Road about 560 feet (0.17 kilometers[km]) to the north. Additional rail lines carried cars through the repair shop. The property also boasted a garage and shop building (Figure 2.3.2-2) (Schramm et al. 1980:243).

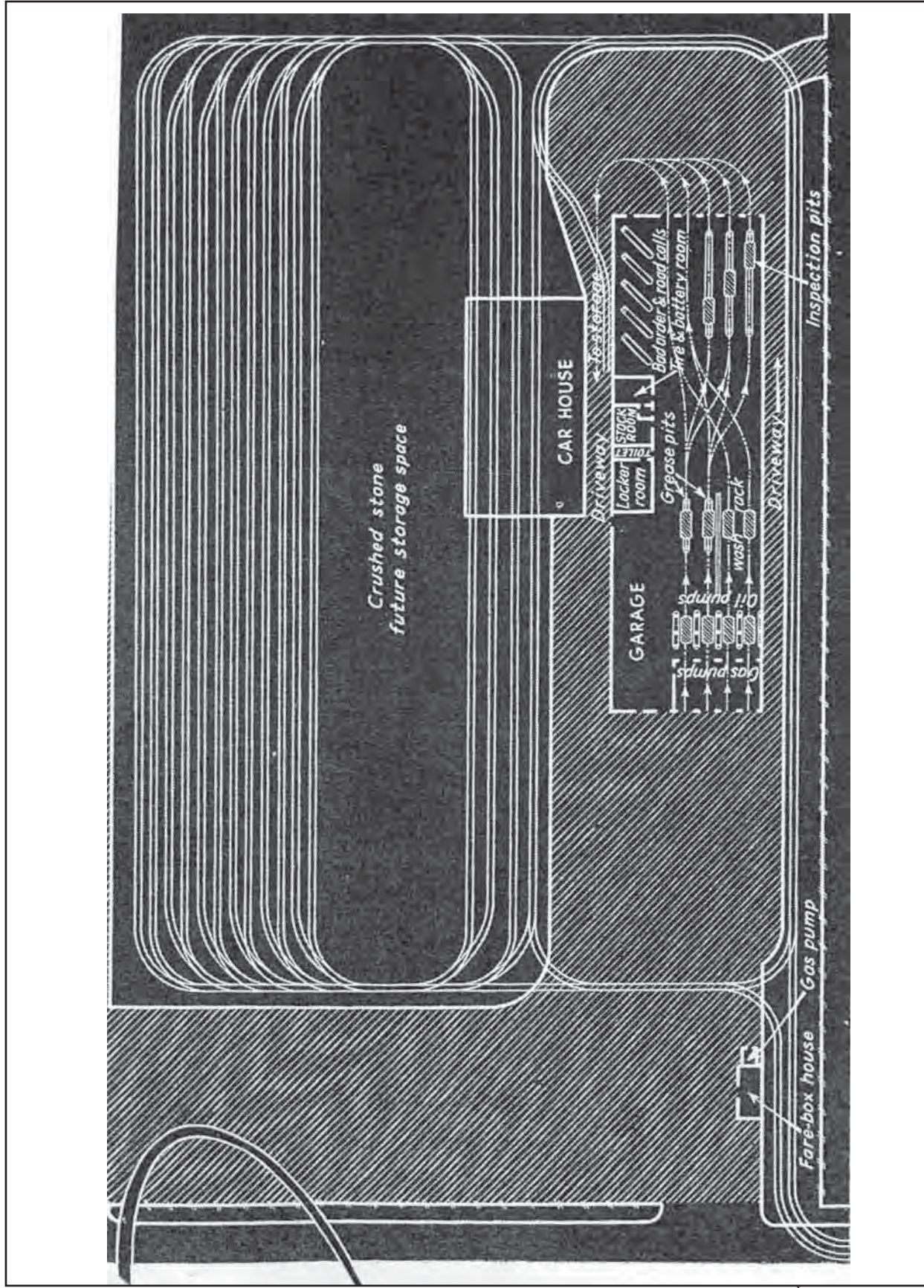
In March 1938, an article described the new “streamlined” maintenance facility housed at the Coolidge Garage of the DSR (Figures 2.3.2-1 through 2.3.2-4) (*Bus Transportation* 1938:120). Extensive remodeling of the original facility enabled the DSR to quickly and efficiently service the 500 bus fleet with fuel, oil, and water. Intended for service only, the garage housed only badly disabled coaches (*Bus Transportation* 1938:121). Although the focus was on the new bus garage, the Coolidge Terminal continued to include street car service as is illustrated by the presence of the car house in Figure 2.3.2-2, and the numerous tracks located north of the garage.

Almost exactly 10 years after the garage was upgraded, on May 4, 1947, the car house was closed in preparation for reconstruction to the present complex (DTF 2009). The decision to



Source: Schramm et al. 1 80:243

Figure 2.3.2-1. Coolidge Car House ca. 1 28



Source: us Transportation 1 38:121

Figure 2.3.2-2. Coolidge arage 1 38



Source: DTH 200

Figure 2.3.2-3. Coolidge Terminal in 1938



Source: DTH 200

Figure 2.3.2-4. Remodeled Interior of the Coolidge Terminal in 1938

reconstruct the facility was made about the same time that the DSR announced plans to abandon street car service in favor of passenger buses.

On April 26, 1946, the Detroit Common Council approved a contract between the DSR and the architecture engineering firm of Harley, Ellington, and Day, Inc. (City of Detroit [CD] 1946:1032). The contract specified that the firm would be responsible for the preparation of the final construction plans and letting of construction contracts for a garage required to store and service equipment. While this garage was not on the site of the Coolidge Terminal property, it did establish a relationship between the City of Detroit DSR and the firm of Harley, Ellington, and Day, Inc. In 1946, the firm designed the renovations to Detroit's Fort Street Union Rail Depot, and then went on to design six new garages for the DSR, which had been converting from streetcars to buses (HED 2008:22).

On May 4, 1947, Coolidge Car House closed (Schramm et al. 1980:270). On May 27, 1947, the City of Detroit's *Journal of the Common Council*, reported:

Please be advised that at the present time the Department of Street Railways is clearing its Coolidge coach terminal of old street cars, and preparing the site for the erection of a new storage garage. This necessitates the removal of some of our open storage car tracks on that site [CD 1947:1510].

The *Journal of the Common Council* recorded a report on June 13, 1947, by L. B. Smith, Purchase and Supplies, and approved by Richard A. Sullivan, General Manager. This report read in part:

In response to our advertisement for proposals for the construction of Coolidge Terminal at 14100 [sic] Schaefer Highway, bids were received and opened June 9, 1947...The lowest bid, in strict accordance with specifications, was submitted by the W.E. Wood Company and it is recommended that the contract be awarded to them on the basis of \$2,660,550.00 which includes alternate No. 3 for finishing wrought iron pipe instead of steel pipe [CD 1947:1624].

That September, Harley, Ellington and Day acquired a series of building permits for the buildings at Coolidge Terminal (Bradley 2003:3-12). The project completely rebuilt the facility and, other than the re-use of the steel frame from one of the original buildings, no evidence of the earlier car house remained. Constructed just months after the Gilbert Terminal, the two properties include a number of similarities, although the site plan differs due to the constrictions of an oddly shaped property for the Gilbert Terminal. The terminal buildings for the two properties are almost identical, with the plan simply mirrored at the Coolidge property (Bradley 2003:3-12). One other notable difference is the number of steel sash windows in the upper walls of the two bus maintenance buildings, with Coolidge boasting an additional row. For both

facilities, the designs featured concrete and steel building united by walls in blended shades of brick. While the new facilities are very different from the original terminal, the architect’s use of one-way bus lanes was surely inspired by the organization brought to the property by the original railroad lines.

Construction of the Coolidge Terminal, along with the new Gilbert Terminal and a large storage garage at the Shoemaker Terminal, were recorded at \$6 million in 1948 (Taylor 1948:67). This did not include any of the fees associated with the modernization of the fleets including the replacement of small buses and obsolete streetcars with larger modern buses. Construction of the new facilities also added items not needed for streetcars but imperative for buses. This included gasoline systems and modification of car pits for use on the bus motors (Taylor 1948:68).

The Coolidge Terminal Complex was constructed beginning in 1948 and ending in the late 1970s. The original buildings include the Bus Storage Building (1948-1950); the Bus Maintenance Building (1948) (Figure 2.3.2-5); the Bus Washing Building (1948); the Gate House (1948); the Terminal Building (1948) (Figure 2.3.2-6); the Fare Box House (1948); and the Heating Plant (1948 with a later undated addition). There is also a small building near Schaefer Highway, likely a Dispatch House, that was erected ca. 1960, but was abandoned prior to 2003. The final feature of the complex is the Communications Tower, erected post 1978 (Bradley 2003:3-7).

An article that ran in the industry magazine *Bus Transportation* in 1948 went into great detail regarding the construction of the Coolidge and Gilbert Terminals. In addition to a discussion of the location of each site, and how they were appropriately located near major roads that would eliminate the necessity to run “dead-head” or empty, the article discussed the components of each facility and the estimated cost of each structure (Taylor 1948:68). These figures are presented in Table 2.3.2-1.

Table 2.3.2-1. Estimated Cost of the Coolidge Terminal Buildings

Building Name	Cost
Storage Garage	1,020,000
Gas House	65,000
Gas Dispensing System	170,000
Power Plant	131,000
Maintenance and Service	658,900
Fare Box, Gate, Dispatch House, etc.	26,800
Terminal Building	199,800
Site Work (paving, drainage, fences, etc.)	389,000
Total Cost	\$2,660,500

Beginning in September 1950, there were 20 bus routes assigned to the Coolidge Terminal. These include:



Source: DTH 200

Figure 2.3.2-5. Coolidge Terminal Building 1 48



Source: DTH 200

Figure 2.3.2- . Coolidge Bus Maintenance Building 1 48

Broadstreet, Five Points, Grand River, Greenfield, Hamilton, Lahser, Livernois, Meyers, Northlawn, Plymouth-Caniff, Puritan-Fenkell, Schaefer, School, Schoolcraft, Six Mile Shuttle, Southfield, Second Avenue, Trumbull Railbus, West Chicago, and Wyoming [DTH 2012].

For five decades, the Coolidge Terminal continued to operate with only minor changes. In 1957 the bus washing area was expanded, and during the 1960s a small concrete-block building used as a dispatcher building was erected near the Schafer Highway boundary of the facility. At some point between 1948 and 1960 the Fare Box House was relocated and in the late 1970s the earlier radio tower was replaced with the current 480-foot structure.

On October 17, 2011, Michigan Senators Debbie Stabenow and Carl Levin announced support of five transportation projects across the state of Michigan that had been selected by the United States Department of Transportation (Levin and Stabenow 2011). Included in this package was a grant of \$518,291 to the D-DOT for the Coolidge Terminal and Garage Overhaul. Levin stated that the project, which was selected on a competitive basis through the Fiscal Year 2011 State of Good Repair Program, would fund the rehabilitation of a number of buildings at the Coolidge facility (Levin and Stabenow 2011).

In December 2011, before the work could be carried out on the facility, a fire damaged one of the buildings in the complex. Early in the morning of December 7, 2011, a two-alarm fire broke out in the Coolidge Terminal Bus Garage (Thomas 2011). This fire partially destroyed part of the bus garage, and destroyed a number of buses that had been stored inside. Reports the day after the fire noted that, “according to witnesses, the fire appeared to have started underneath one bus and appeared to have spread” (*Detroit Free Press* [DFP] 2011). When the fire was discovered, on-duty bus drivers, supervisors, and others on the scene were able to move about half the buses from the garage bay; however, eight buses were destroyed in the blaze. Many of the destroyed buses were new, valued at \$350,000 each (DPF 2011). In spite of the loss, D-DOT felt they would be able to continue to operate with no major delays when service resumed.

At the time of the field survey of the property in May 2012, only the Terminal Building is used for dispatch and other operational functions. No buses use the facility, and until the renovations are carried out, the property remains virtually empty.

3.0 COOLIDGE TERMINAL DESCRIPTION

Located in northwest Detroit, the terminal facility is situated on the east side of Schaefer Highway between major arterials of Schoolcraft Street and Fenkel Road. The facility occupies approximately 20 acres of land in the southwest quarter of Section 20, T1S/R11E, Wayne County, Michigan (Figure 3.0-1; see also Figure 1.1-1). The large area associated with the terminal is defined by a variety of fencing materials, securing the property from unauthorized entry. The main frontage, along Schaefer Highway, features a combination of chain-link fencing near the north and south corners of the property where vehicular access to the property was possible, and poured concrete barrier topped by a masonry block wall surmounted by a metal picket fence (Figure 3.0-2). The south and east sides of the property are divided from the surrounding neighborhood by tall concrete panel and post wall (Figure 3.0-3). The north side of the complex has a tall chain-link fence its entire length (Figure 3.0-4).

Stylistically, the Coolidge Terminal, and particularly the main office Terminal Building, is of the International style. These buildings feature flat roofs, usually without a ledge or coping at the roof line, typically metal casement type windows that are set flush with the outer walls, and smooth unornamented wall surfaces (McAlester and McAlester 1984:469). While the buildings tend to be unornamented, the façades are often asymmetrical, providing some visual interest to the property. This is certainly the case with the Coolidge Terminal office, which features one corner of the two-story building recessed from the front. The post-World War II construction enabled the use of aluminum, found on the window mullions and sashes as well as forming a wide molding element, doors, and interior hardware. As an alternative to the more expensive limestone, marble, or cast-stone, the architects utilized panels of light gray and red terrazzo on the façade. Additional light gray panels provide a sleek, smooth cladding material for the walls and free-standing column placed to support the outer corner of the recessed entry. Dark red spandrel panels placed between the windows and other fenestration elements read as voids in the wall when defined by the light color of the aluminum grid. Historically, the only ornament beyond the use and placement of different construction materials are the three large letters “D S R” positioned at the edge of the roof above the corner entrance (Bradley 2003:3-12). These letters were removed prior to the 2003 study of the property, although the precise date is not known.

There are eleven buildings, structures or objects associated with the Coolidge Terminal property (see Figure 3.0-1). Immediately north of the main access gate is the large Terminal Building currently used for administrative purposes. South of the Terminal Building and the operable gate, is the Gate House. South of the Gate House, along the east side of the front gate and situated near the center of the Bus Storage Building is the Dispatch House, that was no longer in use during the 2003 site review of the property by URS (Bradley 2003). The largest complex of buildings is the Bus Washing Building, Bus Maintenance Building, and Bus Storage Building. These three structures are each defined separately but share common walls. Together, this complex is clearly the largest on the property. North of the Bus Washing Building is the Fuel Station, and the Heating Plant is northeast. South of the Heating Plant is the Fare Box House and

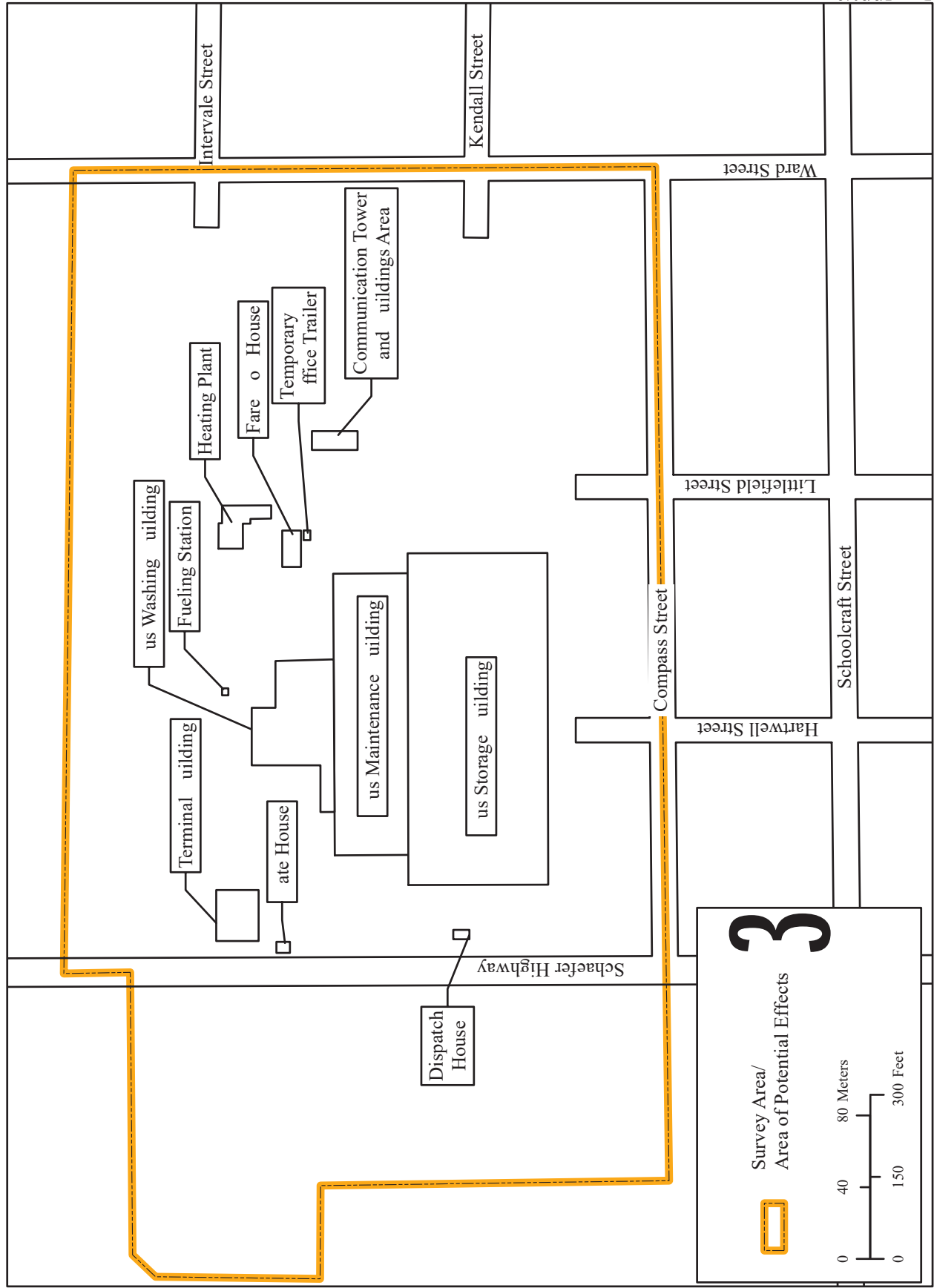


Figure 3.0-1. Coolidge Terminal Site Map



Figure 3.0-2. Coolidge Terminal Property West Wall



Figure 3.0-3. Section of Concrete Block Wall at Coolidge Terminal



Figure 3.0-4. Section of Chain-link Fence at Coolidge Terminal



Figure 3.0-5. Temporary Office Trailer East and South Elevations

a Temporary Office Trailer (Figure 3.0-5). South of the Fare Box House is the Communications Tower. There is a large area of open space on the east side of the property, once lined with railroad tracks for street car storage, and now simply open field for staff parking and open-air bus storage if needed. The final component of the Coolidge Terminal facility is the fueling area. Located near the north fence line east of the Terminal Building, the Fueling Station consists of a pump mounted on a low concrete platform (Figure 3.0-6). Remaining features of the complex are much more elaborate and are described in the following text.

3.1 TERMINAL BUILDING

In April 2012, this was the only building on the property still in use. Located north of the main gate, the Terminal Building was divided from the main storage and repair facilities by a driveway. In addition to providing a formal face to the property, the Terminal Building historically included a men's locker room for drivers, a break room, union offices, and bus pass sales operation on the first floor. The second floor housed the women's locker room, radio dispatch center, and administrative offices (Bradley 2003:3-9).

The two-story brick and gray terrazzo building has a rectangular plan and is oriented perpendicular to Schaefer Highway. The public entrance to the building is situated at the southwest corner of the building and is accented by the extensive use of limestone (Figure 3.1-1 through 3.1-3). The doors are recessed at the southwest corner of the building, yet highlighted by the use of light gray terrazzo panels on the surrounding walls and free-standing column at the open corner of the structure. Similar colored molding encircles the area with the terrazzo panels and wraps partially across the brick façade of the Terminal Building terminating just beyond a vertical bank of windows and spandrels near the recessed entry. The same molding extends partially down the length of the south elevation to a point at the east end of a vertical bank of windows on that elevation. The windows within this highlighted portion of the entry are divided by tall narrow rails into three bays under the recess and three on the main surface of the façade. As a result, the two-story building has six windows on the façade portion of the entry and three additional windows over three doors within the recessed area. Tall dark colored spandrels extend between the top of the first floor fenestration to the base of the second floor windows. Each individual window is further divided by metal sashes into four rows of two lights each.

Narrow bands of windows with stone sills pierce the façade wall marking the first and second stories. Similar bands of slightly larger windows are located at the first and second stories of the north and south elevation and only at the second story on the east elevation. These windows are all replacements, with modern black sashes and tinted glass. Only the four large window openings on the first story of the east elevation appear to retain most of their original windows. These east elevation windows have bars and indicate the location of the bus pass sales area where money was kept (Bradley 2003:3-9). Additional fenestration includes a metal door at the east corner of the south façade. This door provides access to a large open area and serves as the main door. The front entrance is not used.



Figure 3.0- . Fueling Station view northeast



Figure 3.1-1. Terminal building West and South Elevations

3.2 BUS STORAGE BUILDING

The largest and southernmost building at the Coolidge Terminal is the bus storage building (Figure 3.2-1 and 3.2-2). The one-story brick building is topped with a flat parapeted roof. The roof is supported by two different kinds of steel trusses. Most of the building has light-steel framing trusses popular during the mid-twentieth century for one-story industrial buildings.

The east corner of the south wall is taller than the remaining building. This section of the building features stone-capped pilasters regularly spaced along the wall dividing it into bays. Inside, Pratt trusses about 4 feet in height support the roof. The trusses are joined with reinforcing plates and diagonal horizontal braces to stabilize the bottom chords. It has been speculated that the presence of the pilasters and the Pratt trusses only in this portion of the building indicate that this is the surviving remnant of the 1928 Coolidge Terminal building, with the frame reused when it was reconstructed in 1948 (Bradley 2003:3-8).

Fenestration on the Bus Storage Building is limited to large overhead vehicle doors on the east and west elevations. These doors correspond with interior bus lanes which are divided on the interior into sections consisting of two or three lanes each and connected to each other by internal pedestrian doors. The interior walls are what saved the entire bus garage from destruction when a fire broke out in November 2011. Today the only evidence of the damage from the street is the fully blackened overhead door at the northeastern corner of the west elevation. Not visible from the road is the fact that the roof directly over this bus bay has also fallen in when the fire combined with the weight of a roof-top heating/cooling unit resulted in the trusses failing.

3.3 BUS MAINTENANCE BUILDING

Situated between the Bus Storage Building (to the north) and the Bus Washing Building (to the south), is the Bus Maintenance Building, the second largest structure on the property. The two major exposed elevations are on the east and west elevations of the structure, with the entire south wall shared with the adjacent storage building (Figure 3.3-1 and 3.3-2). The Bus Washing Building is smaller than the Bus Maintenance Building, resulting in a small section of the north elevation exposed at both the east and west ends. Two tiers of industrial metal sash windows fill most of the east and west elevations. The panels of the windows are held in place by wide steel mullions. Below the lower row of windows is a chest-high brick wall covered by sheet metal. The upper set of windows rise to just below the sheet-metal clad parapet coping. A narrow sheet-metal clad canopy extends from above the upper windows on the west elevation. Additional windows are set in the east and west ends of the north wall. These metal-sash windows are set in rectangular openings. A cast-stone continuous sill extends under the windows. A series of overhead doors on both the east and west elevations identify the vehicular bays. Inside, each of the vehicular bays is flanked by an angled service bay. Interior walls feature glazed tile blocks on the lower portion with the upper section consisting of concrete block.



Figure 3.2-1. Bus Storage Building West and South Elevations



Figure 3.2-2. Bus Storage Building East and South Elevations



Figure 3.3-1. Bus Maintenance Garage West and North Elevations



Figure 3.3-2. Bus Maintenance Garage East and North Elevations

3.4 BUS WASHING BUILDING

The Bus Washing Building is the northern-most component of the block of buildings that also includes the Bus Maintenance Building and the Bus Storage Building (Figure 3.4-1 and 3.4-2). Like most of the remaining complex the one-story L-plan building has brick-clad exterior walls and a flat roof. A large metal structure which held the materials needed for servicing the buses is situated near the north elevation of the building, which is also pierced by a pair of rectangular openings filled with metal sash windows. A metal pedestrian door is situated at the northwest corner of the building. There are six parallel bus washing bays, each identified by an overhead door on both the east and west elevations. Inside, the building walls are composed of glazed tile and glass block panels. The ell of the building is divided internally into a pair of locker rooms and equipment storage rooms that once served both the Bus Washing Building and the adjacent Bus Maintenance Building.

3.5 GATE HOUSE

Marking the entrance at Schaefer Road into the Coolidge Terminal property is the small Gate House (Figure 3.5-1). Located south of the Terminal Building, the Gate House is rectilinear in plan and oriented perpendicular to the main road. Constructed on a low concrete pad, the walls of the building are sheathed with brick. The brick walls rise only 12 courses and are topped by a cast-stone sill. Above the sill, the remainder of each wall is divided into bays by metal mullions and filled with either modern aluminum sash windows or a metal and glazed door at the center of the north elevation. The flat roof extends beyond the walls to form an overhang, although instead of following the shape of the Gate House, both corners on the east side of the building are clipped to prevent accidents when buses move in close proximity. Other protective measures include the erection of traffic bollards and metal railing across the east and south elevations.

3.6 HEATING PLANT

Currently the northeast building in the Coolidge Terminal Complex, the Heating Plant is made up of several structures constructed over time (Figure 3.6-1). The original building is located on the east side of the structure and consists of a large open area enclosed with brick walls and a flat roof. Large windows pierce the walls as clearstory windows on the south, east, and north elevations, while the windows are expanded on the west elevation to cover the upper two-thirds of the visible wall. A more recent concrete block and metal addition topped by a side gable metal clad roof covers a portion of the original west elevation. The walls of the addition are also pierced by a bank of metal sash windows high on the west elevation. Exposed metal tabs extend from the block walls suggesting that the original intention was to also clad this portion of the building with brick veneer. Extending from the south of the original heating plant is a one-story brick clad ell. The final portion of the structure is a cylindrical brick chimney stack encircled periodically by metal straps. The chimney stack tapers toward the top with a number of corbelled courses situated just below the top of the structure.



Figure 3.4-1. Bus Washing Building West and North Elevations



Figure 3.4-2. Bus Washing Building East and North Elevations



Figure 3.5-1. Gate House North and East Elevations



Figure 3. -1. Heating Plant North and East Elevations

3.7 FARE BOX HOUSE

Situated southwest of the Heating Plant, the Fare Box House is a rectangular plan building clad with sheet steel wall panels (Figure 3.7-1). The shed roof slopes down to the south, but extends beyond the walls of the building. The overhang is widest across the north elevation, where the majority of the fenestration is also located. A low concrete deck resting on a wider concrete pad extends across the north elevation and creates two steps to the level of the doors – accessible both from the grade level and at a height easy for drivers to exit their buses as well.

Fenestration includes three doors spaced on the north elevation: one at both the east and west corners and the third off-set from the middle toward the eastern door. Clerestory windows, covered with bars, are located across the façade as well as at the south corner of the east elevation. Additional windows extend down to form a second tier of three windows adjacent to both the west and center doors. Metal bars cover the windows and a metal grate door over the original door indicates that the building is essentially a building-sized safe (Bradley 2003:3-10).

3.8 COMMUNICATIONS TOWER

Located southeast of the Heating Plant, the Communications Tower consists of a tripod lattice antennae tower with three large guy wires extending out great distances at angles to assist in its support (Figures 3.8-1 and 3.8-2). The tower itself is situated inside a tall chain-link fence and flanked by several small buildings. The largest of the associated structures is simply constructed of concrete block which rises in a parapet above the almost flat roof.

3.9 DISPATCH HOUSE

Previously identified as “building no longer in use;” however, based on current project drawings, the building once served as the Dispatch House (see C-1, C-2, and C-3). The small concrete block building is rectilinear in plan and is oriented parallel to the nearby Schaefer Highway (Figure 3.9-1). Topping the structure is an almost flat roof that extends in a wide overhang on the east elevation. At the south end of the building there is an open side wall and another large opening in the south wall, presumably to permit adequate visibility for the building occupants. The north portion of the building forms a small office area featuring a large window with a fixed sash on the east elevation. A concrete ramp begins at the northeast corner of the Dispatch House and is partially encircled by a pipe railing. Like the nearby Guard House, heavy metal railings are situated near the north, south, and east elevations as protective measures for the building and its occupants.



Figure 3.7-1. Fare o House orth and East Elevations



Figure 3.8-1. Communications Antennae Tower
iew ortheast



Figure 3.8-2. Communications Antennae Buildings East and North Elevations



Figure 3. -1. Dispatch House East and North Elevations

4.0 EVALUATIONS AND RECOMMENDATIONS

4.1 PROJECT APE

Not including the Coolidge Terminal Complex, there are seven commercial buildings and a total of 24 residential structures in the APE for this project, all of which were constructed over 40 years ago (see Table 2.2-1). Of these, none demonstrate architectural or historical significance; therefore, CCRG recommends that none of the properties in the APE meet the requirements for inclusion in the NRHP.

4.2 COOLIDGE TERMINAL EVALUATION

4.2.1 Period of Significance

The Coolidge Terminal was established at the present site in 1928, just a short time after the City of Detroit had annexed the area from Greenfield Township. Operating initially as a shop and storage facility for the DSR's streetcars, particularly for those on the Grand River Avenue route, the facility was strategically placed to provide close access to the established routes. Other than the property itself and a tiny portion of one building that it is speculated came from an earlier time, there is no extant evidence of the history of the property between 1928 and 1947.

The current buildings of the Coolidge Terminal were constructed beginning in 1947, with the majority of the work completed by the end of 1948. The buildings from this time period are part of the modernization program the DSR launched following World War II, and represent one of last times that the City of Detroit developed a major transportation plan focused on public transportation rather than private automobiles; therefore, the period of significance for the Coolidge Terminal begins in 1947, with the beginning of construction on the site, and extends to 1962, a point 50 years ago and late enough to capture the time when the Dispatch House was constructed and the relocation of the Fare Box House. After 1962, there were only minor changes to the property, in spite of the financial difficulties and serious reduction in services over the following decades.

4.2.2 Integrity

The first step in determining if a property or district has historic significance and is associated with the determined period of significance is to examine its historic integrity. As previously stated, there are seven areas of integrity that are examined. These include: location, design, setting, materials, workmanship, feeling, or association.

The Coolidge Terminal property has not moved from its original site, and therefore retains integrity of setting. Additionally, the buildings surrounding the Terminal, or its setting, have also remained the same, or only undergone minor changes from the beginning of the period of significance in 1947 through the present day. The integrity of design, materials, and

workmanship are also very good. Alterations in these areas of integrity include the removal of the large DSR sign from the roofline of the Terminal Building; replacement of the windows in the Terminal Building, although in this case the openings remained the same and the replacement windows fitted into the original openings; removal of the small buildings once associated with the fueling area as well as several additional small buildings on the eastern portion of the property; and the construction of the unfinished addition to the Heating Plant. While the recent fire in the Bus Storage Building has impacted the materials and workmanship in this portion of the building, from the street, the damage appears to be limited to the blackened overhead door.

In spite of these changes, the character defining features of the Coolidge Terminal remain firmly in place. Post-World War II building materials and design principles include the use of concrete block for the structures then unified with the use of face brick, steel sash windows on each of the buildings, and the application of cost-saving terrazzo or porcelain enamel panels over stone panels. Even the use of aluminum marks the buildings as post-War given the scarcity of the material during the years of World War II.

With each of these aspects of integrity taken into consideration, it is clear that the Coolidge Terminal carries sufficient integrity to convey the functions and design program that resulted its construction as part of the DSR's modernization program.

4.2.3 NRHP Evaluation

Having established that the Coolidge Terminal has sufficient integrity the next step is to examine the potential NRHP Criteria of Evaluation and their application to the property. As previously noted, Criterion A requires that the property must be associated with events that have been significant in the broad patterns of our history. In the case of the Coolidge Terminal, this would be the association with transportation in Detroit. The Terminal Complex is representative of the public transportation in the city and the move of the DSR, in part through its modernization program, to implement the use of buses over streetcars. This was the last major move by the city to carry out planning, with public transportation the major area of concern. The rise of the private automobile, development of the extensive expressway system, and the associated cost factors of providing the service have since impacted planning efforts away from public transportation. Because the Coolidge Terminal is representative of the post-War planning for Detroit's mass transit, and its use of the sleek International style buildings to illustrate both the modernism program and the utilitarian/industrial aspects of the facility, it is considered eligible for inclusion in the NRHP under Criterion A.

Under NRHP Criterion B, the Coolidge Terminal must be associated with the lives of significant persons and their important contributions to history. While the association with the firm of Harley, Ellington and Day is undeniable, the Coolidge Terminal would likely not be considered their best or most important work; therefore, the property would not be eligible under Criterion B.

NRHP Criterion C requires the Coolidge Terminal to embody distinctive characteristics of bus terminal design, be a significant example of bus terminal design and/or construction, represent the work of a master architect, or exhibit high artistic values. Constructed from standard plans, the property does not have significance as an example of a bus terminal type property. As previously mentioned, while Harley, Ellington and Day were the architects, as a major firm working in the city, many of their projects carry greater architectural significance; therefore, CCRG does not recommend the property to be significant under NRHP Criterion C.

The Coolidge Terminal would not teach us anything about pre-history or history, and therefore is not recommended for listing under NRHP Criterion D.

4.3 RECOMMENDATIONS

The Coolidge Terminal is recommended eligible for inclusion in the NRHP under Criterion A as representative of the City of Detroit's move to modernize the public transportation system in the city during the post-World War II era.

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APPENDIX A
SURVEY FORMS

NR Listed _____ NR Eligible Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Terminal Building
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)



Description

Located north of the main gate, the Terminal Building was divided from the main storage and repair facilities by a driveway. In addition to providing a formal face to the property, the Terminal Building historically included a men's locker room for drivers, a break room, union offices, and bus pass sales operation on the first floor. The second floor housed the women's locker room, radio dispatch center, and administrative offices (Bradley 2003:3-9).

The two story brick and gray terrazzo building has a rectangular plan and is oriented perpendicular to Schaefer Highway. The public entrance to the building is situated at the southwest corner of the building, and is accented by the extensive use of limestone. The doors are recessed at the southwest corner of the building, yet highlighted by the use of light-gray terrazzo panels on the surrounding walls and free-standing column at the open corner of the structure. Similar colored molding encircles the area with the terrazzo panels and wraps partially across the brick façade of the Terminal Building terminating just beyond a vertical bank of windows and spandrels near the recessed entry. The same molding extends partially down the length of the south elevation to a point at the east end of a vertical bank of windows on that elevation. The windows within this highlighted portion of the entry are divided by tall narrow rails into three bays under the recess and three on the main surface of the façade. As a result the two story building has six windows on the façade portion of the entry and three additional windows over three doors within the recessed area. Tall dark colored spandrels extend between the top of the first floor fenestration to the base of the second floor windows. Each individual window is further divided by metal sashes into four rows of two lights each.

Narrow bands of windows with stone sills pierce the façade wall marking the first and second story. Similar bands of slightly larger windows are located at the first and second story of the north and south elevation and only at the second story on the east elevation. These windows are all replacements, with modern black sashes and tinted glass. Only the four large window openings on the first story of the east elevation appear to retain the most of their original windows. These east elevation windows have bars and indicate the location of the bus pass sales area where money was kept (Bradley 2003:3-9). Additional fenestration includes a metal door at the east corner of the south façade. This door provides access to a large open area and serves as the main door. The front entrance is not used.

Significance

Date of Construction 1948-1950

Architect/Builder _____

Context(s): _____

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NR Listed _____ NR Eligible Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Bus
Storage Garage
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The largest and southernmost building at the Coolidge Terminal is the bus storage building. The one-story brick tall building is topped with a flat parapeted roof. The roof is supported by two different kinds of steel trusses. Most of the building has light-steel framing trusses popular during the mid-twentieth century for one-story industrial buildings.

The east corner of the south wall is taller than the remaining building. This section of the building features stone-capped pilasters regularly space along the wall dividing it into bays. Inside, Pratt trusses about four-feet in height support the roof. The trusses are joined with reinforcing plates and diagonal horizontal braces to stabilize the bottom chords. It has been speculated that the presence of the pilasters and the Pratt trusses only in this portion of the building, indicate that this is the surviving remnant of the 1928 Coolidge Terminal building, with the frame reused when it was reconstructed in 1948 (Bradley 2003:3-8).

Fenestration on the bus storage building is limited to large overhead vehicle doors on the east and west elevations. These doors correspond with interior bus lanes which are divided on the interior into sections consisting of two or three lanes each and connected to each other by internal pedestrian doors. The interior walls are what saved the entire bus garage from destruction when a fire broke out in November 2011. Today the only evidence of the damage from the street is the fully blackened overhead door at the northeastern corner of the west elevation. Not visible from the road is the fact that the roof directly over this bus bay has also fallen in when the fire combined with the weight of a roof-top heating/cooling unit resulted in the trusses failing.

Significance

Date of Construction 1948-1950
Architect/Builder _____
Context(s): _____

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Bus
Maintenance Building

District Name _____

Street and Number 14044 Schaefer Highway

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Commercial

Ownership public

Photography: Neg. No. _____

Date April 19, 2012

View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

Situated between the bus storage building (to the north) and the bus washing building (to the south), is the Bus Maintenance Building, the second largest structure on the property. The two major exposed elevations are on the east and west elevations of the structure, with the entire south wall shared with the adjacent storage building. The bus washing building is smaller than the Bus Maintenance Building, resulting in a small section of the north elevation exposed at both the east and west ends. Two tiers of industrial metal sash windows fill most of the east and west elevations. The panels of the windows are held in place by wide steel mullions. Below the lower row of windows is a chest-high brick wall covered by sheet metal. The upper set of window rises to just below the sheet-metal clad parapet coping. A narrow sheet-metal clad canopy extends from above the upper windows on the west elevation. Additional windows are set in the east and west ends of the north wall. These metal-sash windows are set in rectangular openings. A cast-stone continues sill extends under the windows. A series of overhead doors on both the east and west elevations identify the vehicular bays. Inside, each of the vehicular bays is flanked by an angled service bays. Interior walls feature glazed tile blocks on the lower portion with the upper section consisting on concrete block.

Significance

Date of Construction 1948-1950

Architect/Builder _____

Context(s): _____

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible x Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Bus
Washing Garage
District Name

Street and Number 14044 Schaefer Highway
Block Number
Sub-unit
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No.
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The Bus Washing Building is the northern most component of the block of buildings that also includes the bus maintenance garage and the bus storage building. Like most of the remaining complex the one-story L-plan building has brick clad exterior walls and a flat roof. A large metal structure which held the materials needed for servicing the buses is situated near the north elevation of the building, which is also pierced by a pair of rectangular openings filled with metal sash windows. A metal pedestrian door is situated at the northwest corner of the building. There are six parallel bus washing bays, each identified by an overhead door on both the east and west elevations. Inside, the building walls are comprised of glazed tile and glass block panels. The ell of the building is divided internally into a pair of locker rooms, and equipment storage rooms that once served both the Bus Washing Building and the adjacent Bus Maintenance Building.

Significance

Date of Construction 1948-1950
Architect/Builder
Context(s):

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.



NR Listed _____ NR Eligible x Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Gate House
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y _____ Y/FV _____ N _____

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

Marking the entrance at Schaefer Road into the Coolidge Terminal property is the small Gate House. Located south of the terminal building, the Gate House is rectilinear in plan and oriented perpendicular to the main road. Constructed on a low concrete pad, the walls of the building are sheathed with brick. The brick walls rise only 12 courses and is topped by a cast-stone sill. Above the sill, the remainder of each wall is divided into bays by metal mullions and filled with either modern aluminum sash windows or a metal and glazed door at the center of the north elevation. The flat roof extends beyond the walls to form an overhang, although instead of following the shape of the Gate House, both corners on the east side of the building are clipped to prevent accidents when buses move in close proximity. Other protective measures include the erection of traffic bollards and metal railing across the east and south elevations.

Significance

Date of Construction 1948-1950
Architect/Builder _____
Context(s): _____

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible x Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Heating Plant
District Name

Street and Number 14044 Schaefer Highway
Block Number
Sub-unit
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: **Neg. No.**
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or Recorder/Date E. H. Robinson

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

Currently the northeast building in the Coolidge Terminal complex, the Heating Plant is made up of several structures constructed over time. The original building is located on the east side of the structure and consists of a large open area enclosed with brick walls and a flat roof. Large windows pierce the walls as clearstory windows on the south, east, and north elevations, while the windows are expanded on the west elevation to cover the upper two-thirds of the visible wall. A more recent concrete block and metal addition topped by a side gable metal clad roof covers a portion of the original west elevation. The walls of the addition are also pierced by a bank of metal sash windows high on the west elevation. Exposed metal tabs extend from the block walls suggesting that the original intention was to also clad this portion of the building with brick veneer. Extending from the south of the original heating plant is a one-story brick clad ell. The final portion of the structure is a cylindrical brick chimney stack encircled periodically by metal straps. The chimney stack tapers toward the top with a number of corbelled courses situated just below the top of the structure.

Significance

Date of Construction 1948-1950
Architect/Builder
Context(s):

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible x Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Fare Box House
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

Situated southwest of the Heating Plant, the Fare Box House is a rectangular plan building clad with sheet steel wall panels. The shed roof slopes down to the south, but extends beyond the walls of the building. The overhang is widest across the north elevation, where the majority of the fenestration is also located. A low concrete deck resting on a wider concrete pad extends across the north elevation and creates two steps to the level of the doors – accessible both from the grade level and at a height easy for drivers to exit their buses as well.

Fenestration includes three doors spaced on the north elevation: one at both the east and west corners and the third off-set from the middle toward the eastern door. Clerestory windows, covered with bars are located across the façade as well as at the south corner of the east elevation. Additional windows extend down to form a second tier of three windows adjacent to both the west and center doors. Metal bars cover the windows and a metal grate door over the original door indicate that the building is essentially a building-size safe (Bradley 2003:3-10).

Significance

Date of Construction 1948-1950
Architect/Builder _____
Context(s): _____

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal,
Communications Tower
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

Located southeast of the Heating Plant, the Communications Tower consists of a tripod lattice antennae tower with three large guy wires extending out great distances at angles to assist in its support. The tower itself is situated inside a tall chain-link fence and flanked by several small buildings. The largest of associated structures is simply constructed of concrete block which rises in a parapet above the almost flat roof.

Significance

Date of Construction post 1978
Architect/Builder _____
Context(s): _____

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.



NR Listed _____ NR Eligible Not NR Elig _____ More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Coolidge Terminal, Dispatch House
District Name _____

Street and Number 14044 Schaefer Highway
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership public

Photography: Neg. No. _____
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)



Description

Previously identified as "building no longer in use", however, based on current project drawings, the building once served as the Dispatch House. The small concrete block building is rectilinear in plan and is oriented parallel to the nearby Schaefer Highway. Topping the structure is an almost flat roof that extends in a wide overhang on the east elevation. At the south end of the building there is an open side wall and another large opening in the south wall, presumably to permit adequate visibility for the building occupants. The north portion of the building forms a small office area featuring a large window with a fixed sash on the east elevation. A concrete ramp begins at the northeast corner of the dispatch house and is partially encircled by a pipe railing. Like the nearby Guard House, heavy metal railings are situated near the north, south, and east elevations as protective measures for the building and its occupants.

Significance

Date of Construction ca. 1960
Architect/Builder _____
Context(s): _____

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13136 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 168

Date 4-19-2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

One and one-half story bungalow is square in plan and rests on a rock-faced concrete block foundation. Exterior walls are clad with vinyl siding and the side gabled roof has a shed roofed dormer that extends over the full-width front porch. Brick piers topped by wrought-iron posts support the overhanging porch roof. On either side of the centered main entrance are wide window openings filled with grouped three-over-one double-hung sash windows. The remaining windows appear to have similar double-hung and single fixed-light sashes.

Significance

Date of Construction 1926

Architect/Builder _____

Context(s): _____

House was constructed during the first phase of the development in the Happy Homes Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13142 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 168

Date 4-19-2012

View South & East Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E.H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story gable front bungalow has a concrete block foundation, clapboard exterior walls and an asphalt shingle clad roof. The roof features broad overhangs and three large knee brackets in the gable end. A brick chimney extends above the west roof slope. The house has a full-width front porch topped by a hipped roof which is, in turn, supported by four wood posts and surrounded by a tall balustrade. Most windows have been replaced with horizontal sliders, although a pair of original windows, with four vertical lights each, is present in the gable peak.

Significance

Date of Construction 1925

Architect/Builder _____

Context(s): _____

This house was erected during the first phase of the development of the Happy Homes Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number _____

Block Number 13176 Compass Street

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 172

Date April 19, 2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)



Description

The one and one-half story house rests on a rock-face concrete block foundation. The building is oriented parallel to the road by the hip-on-a-gable roof. A lower gable front cross dormer extends slightly over the façade to form an overhang over the front entry. The house has been clad with vinyl siding and all of the original windows replaced with small modern windows. A modern wood deck encircled by a tall balustrade extends across the width of the dwelling.

Significance

Date of Construction 1928

Architect/Builder _____

Context(s): _____

This house was erected during the first phase of the Happy Homes Subdivision development (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13178 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Vacant

Ownership private

Photography: Neg. No. 173

Date April 19, 2012

View South & West Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story bungalow has a Front Gable roof and a lower projecting gable roof over an enclosed porch. A parged chimney stack pierces the north roof slope near the center ridge. Constructed on rock-face concrete block, the exterior walls of the house are sheathed with wavy asbestos shingles and the roof with asphalt shingles. The front porch was originally encircled by tall two-light fixed windows, although the north side windows on the porch and main residence have subsequently been covered with Oriented Strand Board. Visible windows retain their original one-over-one double-hung sashes.

Significance

Date of Construction 1925

Architect/Builder _____

Context(s): _____

This house was part of the first phase of construction in the Happy Homes Subdivision development (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13184 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 174

Date April 19, 2012

View South & West Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story gable front bungalow has a lower gable front ell projecting from the front elevation and comprising an enclosed porch. The exterior of the entire house is clad in vinyl siding, which extends to grade obscuring the original foundation materials. Windows on the porch and main dwelling have been replaced with modern windows, including double-hung sashes on the porch and horizontal sliders on the house. In a 2003 report a one-car garage was noted on the property, although there is currently no evidence of this structure (Bradley 2003).

Significance

Date of Construction 1925

Architect/Builder _____

Context(s): _____

This house was constructed in the first phase of construction for the Happy Homes Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13192 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Vacant

Ownership private

Photography: Neg. No. 176

Date April 19, 2012

View South and West Elevations

36 CFR 61 Y Y/FV N

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

This is a one-story house with a gable-on-a-hip roof. Constructed on a concrete block foundation, the building has been stripped of its exterior wall cladding and fenestration elements.

Significance

Date of Construction c. 1960

Architect/Builder _____

Context(s): _____

Bibliographic References

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13310 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 179

Date April 19, 2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

The one and one-half story side gable bungalow house is constructed on a raised concrete block foundation. Exterior walls of the house are clad with vinyl siding and the roof is sheathed with asphalt shingles. A pair of gable roof dormers pierce the south slope of the roof and are situated just above the projecting shed roof over the open front porch. The porch roof is supported by wood posts and features a tall modern wood balustrade and railings flanking the center stairway. Windows include a large fixed light picture window east of the front door, and a number of smaller double-hung windows on the rest of the house.

Significance

Date of Construction c. 1930

Architect/Builder _____

Context(s): _____

This house was erected during the early development of the Happy Homes Subdivision.

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____
Common Name _____

District Name _____

Street and Number 13320 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 180

Date April 19, 2012

View South & West Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

This one-story gable front house is oriented perpendicular to the main road. A second, lower projecting gable roofed structure extends from the façade and provides shelter over the front entry and a large window. The house is clad with vinyl siding and the roof with asphalt shingles. Fenestration includes a door at the center of the façade and a second door near the center of the east elevation. Windows are modern horizontal sliders in a variety of sizes.

Significance

Date of Construction c. 1960

Architect/Builder _____

Context(s): _____

Bibliographic References

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13326 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Michigan

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 185

Date April 19, 2012

View South & West Elevations

36 CFR 61 Y ___ Y/FV ___ N ___



Survey/Date April 19, 2012

Survey or E.H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

This one-story gable front house is oriented perpendicular to the main road. A pent roof extends the width of the façade, shading the fenestration below and defining the gable peak. The house is clad with vinyl siding and the roof with asphalt shingles. Fenestration includes a door at the center of the façade and horizontal slider windows in a variety of sizes.

Significance

Date of Construction c. 1960

Architect/Builder _____

Context(s): _____

Bibliographic References

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13332 Compass Street
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Domestic
Present Usage Vacant

Ownership private

Photography: Neg. No. 182
Date April 19, 2012
View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___



Survey/Date _____
Survey or Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

This one-story bungalow has a painted brick foundation, wood siding, and a hip-on-gable roof clad with asphalt shingles. A one-story porch extends from the façade, and is topped by a half-hipped roof. Originally windows encircled the porch, but they have subsequently covered with Oriented Strand Board (OSB). Other fenestration features in the house, including the front entry, are also clad with OSB. At one time the property also included a one-story garage, although there was no evidence of the building during field survey (Bradley 2003).

Significance

Date of Construction 1922
Architect/Builder _____
Context(s): _____

This house was erected during the first phase of development of the Happy Homes Subdivision (Bradley 2003)

Bibliographic References

- Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 13350 Compass Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 183

Date April 19, 2012

View South & East Elevation



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

This modest one-story house, clad in Masonite siding, has a concrete foundation. Oriented to the road by its side gable roof, the building has a large addition off the rear of the west side of the house which incorporates a garage into the building's footprint. The primary entry is through a center front door, which is recessed under the main roof. A large multi-light fixed window flanked by smaller double-hung windows is located at the east corner of the façade. Remaining windows are double hung with one-over-one sashes.

Significance

Date of Construction 1946

Architect/Builder _____

Context(s): _____

This house was one of several in-fill dwellings constructed in the neighborhood during a post-World War II building boom (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI

rea Map Title _____
Common Name _____

District Name _____

Street and Number 13500 Compass Street
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Domestic
Present Usage Domestic

Ownership private

Photography: Neg. No. 188
Date April 19, 2012
View South & East Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)

Description

This modest one-story house is clad in asbestos shingles and rests on a concrete foundation. The asphalt shingle clad roof is oriented parallel to the main road and features a small projecting shed roof over the off-center entrance and a projecting square bay immediately east of the door. Most of the windows are double-hung with six-over-six sashes, with the exception of the nine-light fixed window in the projecting bay.

Significance

Date of Construction 1949
Architect/Builder _____
Context(s): _____

This house is one of several constructed in the neighborhood during a post-World War II building boom (Bradley 2003).

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI

Area Map Title _____
Common Name _____

District Name _____

Street and Number 13520 Compass Street
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Domestic
Present Usage Vacant

Ownership private

Photography: Neg. No. 189
Date April 19, 2012
View South & East Elevations



36 CFR 61 Y Y/FV N

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one-story hipped roof house is constructed on a concrete block foundation. Exterior walls for most of the house are sheathed with asbestos shingles, although portions of the front façade feature plywood and tar paper. In a report prepared in 2003, the house was reported as having suffered from fire damage, which resulted in all the windows boarded over. Currently the windows are unboarded, and appear to be single fixed lights (Bradley 2003).

Significance

Date of Construction 1957
Architect/Builder _____
Context(s): _____

This house was one of several in-fill dwellings constructed in the neighborhood during a post-World War II building boom (Bradley 2003).

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Smith Bros. Electric

District Name _____

Street and Number 13200 Intervale Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Vacant

Ownership private

Photography: Neg. No. 157

Date April 19, 2012

View South & East Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The building complex consists of two structures. The oldest, a metal Quonset Hut, is situated on the west side of the property and almost completely obscured by trees, a pile of dirt, and the second building.

The second structure on the lot is a two-story building with a concrete block foundation and main floor that appears to connect to the Quonset Hut, but is expanded with a projecting ell near the center of the structure. This structure is unfinished, with the second floor currently consisting of plywood and only one visible point of entry near the center of façade. Glass blocks comprise the windows in the main part of the first floor with a metal door placed on the south and east elevation of the ell.

Significance

Date of Construction 1946

Architect/Builder _____

Context(s): _____

In 1946, City of Detroit Journal of the Common Council records indicates that a petition was approved by Marsden E. Bowers to convert an existing easement to an alley accessing 13200 Intervale (City of Detroit 1947:488).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

City of Detroit

1947 *Journal of the Common Council*. City of Detroit, Detroit, Michigan.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name Aussie's Auto Service

District Name _____

Street and Number 14013-14025 Schaefer
Highway

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Commercial

Ownership private

Photography: Neg. No. 153

Date April 19, 2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

Consisting of three connected buildings, the concrete block buildings are embellished on the elevation fronting on Schaefer Highway and the north elevation with six-foot brick veneer and a cast stone capstone. The main block of the building features steel sash clerestory windows. Additional fenestration includes a large tinted-glass window on the east elevation of the south building block, which is also pierced by a series of overhead doors and a second large tinted-glass window adjacent to a pedestrian door on its south elevation. Large painted signs extend across the width of the south, east, and part of the north elevations of the complex

Significance

Date of Construction c. 1950

Architect/Builder _____

Context(s): _____

Sanborn maps indicate that his property consists of three connected buildings. Beginning ca. 1950 and continuing into the 1960s, the Ring Tool & Die Company constructed this group of buildings (Bradley 2003)

Bibliographic References

- Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14111 Schaefer Highway

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Industrial

Present Usage Industrial

Ownership private

Photography: Neg. No. 190

Date April 19, 2012

View East Elevation



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)

Description

Largely obscured by fencing along Schaefer Highway, the property includes a one-story flat roofed warehouse.

Significance

Date of Construction 1925

Architect/Builder _____

Context(s): _____

The Cadillac Metal Refining Company, a scrap metal firm, occupied this property in the mid-1950s (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name Sherwood Lumber Company USGS Map Title Royal Oak, MI
Area Map Title

Common Name ReBildors Automotive

District Name

Street and Number 14141 Schaefer Highway

Block Number

Sub-unit

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Commercial/Vacant

Ownership private

Photography: Neg. No. 195

Date April 19, 2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)

Description

The property includes a warehouse building constructed in 1945 and enlarged with a retail wing in the 1960s (Bradley 2003). Both parts of the building complex feature flat roofs. The retail portion of the complex has stone ashlar veneer on three piers that divide the façade into two unequal halves. Original windows and doors on this portion of the complex have been in-filled with concrete block. A wood shingled false mansard roof extends along the upper portion of the south, east, and north elevations of the wing. The associated warehouse building, situated west of the retail wing, has concrete block exterior walls.

Significance

Date of Construction 1945

Architect/Builder

Context(s):

Records indicate that in 1945 a building was constructed on the property. By the mid-1950s, the property was under the ownership of the Sherwood Lumber Company (Bradley 2003). In the 1960s, the front portion of the building

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE



NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name Peck Asphalt Shingle Company USGS Map Title Royal Oak, MI
Area Map Title

Common Name Danny's Used Auto Parts
District Name

Street and Number 14201 Schaefer Highway
Block Number
Sub-unit
Municipal Unit Detroit
County Wayne

Original Usage Commercial
Present Usage Commercial

Ownership private

Photography: Neg. No. 149
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

Set well back from Schaefer Highway, the building is a two-story structure which historically functioned as an office and stock building. Constructed of concrete block, the façade features a brick veneer which rises up in a stepped parapet hiding the low-pitched hipped roof beyond. Originally a string of windows stretched across the façade high above the doorways, but this has been partially in-filled, leaving seven individual horizontal windows to fill the space between vertical panels. A large grade-level opening has also been in-filled with glass block and a centrally placed window enclosed with brick. The remaining door is located near the southeast corner of the façade.

Significance

Date of Construction 1923
Architect/Builder
Context(s):

This property was the first to be developed on the west side of Schaefer Highway near the Coolidge Terminal site. The original business on the property was the Peck Asphalt Shingle Company, later known as the Dawson Roofing Company (Bradley 2003). In 1940, the company was listed under the names of Flintkote Company and Beckman-Dawson Roofing Company. Spurs from the nearby railway entered the property and flanked the main building

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name O. H. Frisbie Moving and Storage

District Name _____

Street and Number 14225 Schaefer Highway

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Commercial

Ownership private

Photography: Neg. No. 140

Date April 19, 2012

View South & East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

An example of the Art Moderne style, the building appears to have very few alterations since it was originally constructed. The one-story brick building features parapets to hide the flat roof. Stone is applied in a band encasing the front windows, forms four piers at the center entry of the façade, and clads a sign panel placed perpendicular to Schaefer Highway above the center entry. The sign panel has the words:

O. H. Frisbee
Storage
Moving

in raised yellow lettering over the front door. Windows are one-over-one double-hung aluminum sashes divided by stone across the width of the façade, and evenly spaced down the side elevations of the office portion of the building. Windows on the side elevations are visually tied to the façade by the use of stone sills. The rear of the building consists of concrete block exterior walls, with regularly spaced loading bays below a projecting roof accessing the eight different storage areas within.

Significance

Date of Construction 1945

Architect/Builder _____

Context(s): _____

Constructed in 1945 as an income producing facility by O. H. Frisbie, the building provided both office and warehouse facilities for a number of smaller firms. In 1956 there were ten occupants in the building, including several manufacturer's agents, building materials firms, and a chemical company. The main office for Frisbie Moving and Storage was on Grand River initially, but with the construction of I-96 he was forced to relocate to this site (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE



NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name O. H. Frisbie Moving & Storage Company

District Name

Street and Number 14226 Schaefer Highway

Block Number

Sub-unit

Municipal Unit Detroit

County Wayne

Original Usage Commercial

Present Usage Commercial

Ownership private

Photography: **Neg. No.** 143

Date April 19, 2012

View West & South Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)

Description

This property includes two large warehouses, each pierced by a series of loading docks. The west building, closest to Schaefer Highway, has a grey brick façade and concrete block exterior walls on the remaining structure. The earlier east building is entirely concrete block, but consists of a lower section on the west end and two-story building beyond.

Significance

Date of Construction 1970 (front) /1967(rear)

Architect/Builder

Context(s):

Constructed as expanded facilities for O.H. Frisbie Moving and Storage located on the west side of Schaefer Highway (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14015 Ward Street
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Domestic
Present Usage Domestic

Ownership private

Photography: Neg. No. 164
Date April 19, 2012
View West & North

Elevations
36 CFR 61 Y ___ Y/FV ___ N ___



Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one-story rectangular plan residence rests on a concrete block foundation and has brick veneered façade. Corrugated metal clads the remaining exterior walls. The front gable roof orients the house perpendicular to the main road. A half-width metal awning supported by wrought iron posts defines the small front porch. The large windows flanking the front entry are double-hung with eight-over-twelve sashes. Remaining windows on the building are horizontal sliders.

Significance

Date of Construction 1970
Architect/Builder _____
Context(s): _____

This house was one of several in-fill dwellings constructed in the neighborhood (Bradley 2003).

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14023 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 163

Date April 19, 2012

View East & North Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR ___ SR ___ NHL ___ CF ___ G ___ TR ___ ER ___ WF ___ SF ___

MH-6 B(5/93)

Description

The one-story house rests on a concrete block foundation, has synthetic siding on the façade and Masonite siding on the remaining building. The gable front roof is clad with asphalt shingles. A shallow pent roof extends from the roof/wall junction at the northwest corner of the house, over the front entry, and ends above a large window placed near the center of the façade. Remaining windows are set high on the wall and are either awning sashes or horizontal sliders.

Significance

Date of Construction 1954

Architect/Builder _____

Context(s): _____

This house was one of several in-fill dwellings constructed in the neighborhood during a post-World War II building boom (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14045 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 162

Date April 19, 2012

View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

The one and one-half story side gable bungalow is sheathed in Insulbrick siding, including on the lower wall of the open porch and the battered piers supporting the roof over the porch. A gable front dormer with a string of three small windows, is situated at the center of the east roof slope and is also clad with Insulbrick siding. The front entry is situated off-set from the center directly across from the front steps. A string of three windows completes the fenestration of the façade below the broken slope of the roof. Additional windows are placed either singly or in pairs, and are either double-hung with one-over-one sashes or fixed lights.

In addition to the main residence, the property includes a wood frame garage.

Significance

Date of Construction 1923

Architect/Builder _____

Context(s): _____

This house was erected during the first phase of development of the Greenlawn Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14101 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Vacant

Ownership private

Photography: Neg. No. 160

Date April 19, 2012

View East & South Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one-story house has a rectilinear form oriented perpendicular to Ward Street. Resting on a concrete foundation, the house is clad with brick veneer on the lower walls and Masonite siding above. The hipped roof is clad with asphalt shingles. A low stone wall and aluminum awning with wrought iron posts defines the small porch on the south side of the house. A series of double-hung windows with two-over-two sashes are grouped at the southeast corner of the building, with additional windows either double-hung or horizontal sliders. A one-story two-car garage topped by a flat roof is located west of the house.

Significance

Date of Construction 1955

Architect/Builder _____

Context(s): _____

This house was one of several in-fill dwellings constructed in the neighborhood during a post-World War II building boom (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14151 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Vacant

Ownership private

Photography: Neg. No. 63

Date April 19, 2012

View East & South Elevations

36 CFR 61 Y ___ Y/FV ___ N ___



Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story side gable bungalow features a front gable open porch and a hipped roof dormer on the east roof slope. The brick house has stone details at the base and capital of the battered columns atop the narrow brick pedestal, surrounding the front entry, and forming sills for each of the window openings. Extensively damaged by fire since 2003, the building is without windows or doors, but retains its exposed rafter tails in the dormer roof overhang (Bradley 2003).

Significance

Date of Construction 1926

Architect/Builder _____

Context(s): _____

This house was part of the original development of the Greenlawn Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14167 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 59

Date April 19, 2012

View East & North Elevations



36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one-story house rests on a rock-face concrete block foundation. The façade wall is clad with vinyl siding while the remaining elevations feature brick veneer. The gable front roof, which extends over the open front porch, is clad with asphalt shingles. Four heavy wood posts support the front edge of the porch roof and a low balustrade surrounds the porch deck. A door is placed at the center for the façade, with windows flanking on either side. The north window is a horizontal slider while the south is a large single light fixed window. The gable peak features a pair of eight-light fixed sash windows and the remaining windows on the house are replacement horizontal sliders.

Significance

Date of Construction 1920

Architect/Builder _____

Context(s): _____

This house was part of the original development of the Greenlawn Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14173 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 58

Date April 19, 2012

View East & North

Elevations _____

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

The one and one-half story side gable bungalow has a side gable roof and large shed roof dormer on the east roof slope. Constructed on a concrete block foundation, the lower exterior walls are clad with Insulbrick while asbestos shingles sheath each of the gable peaks and the dormer walls. The east roof slope extends beyond the wall junction to form an overhang for the open porch across the width of the façade. Three evenly spaced posts rest on the porch deck and support the front of the porch roof. A low balustrade surrounds the porch and forms railings for the off-center stairway. Windows are double-hung with one-over-one sashes and placed in strings of three on the façade, including in the dormer, and either singly or in pairs on the remaining building.

Significance

Date of Construction 1926

Architect/Builder _____

Context(s): _____

This house was constructed during the first phase of development in the Greenlawn Subdivision (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14211 Ward Street
Block Number _____
Sub-unit _____
Municipal Unit Detroit
County Wayne

Original Usage Domestic
Present Usage Domestic

Ownership private

Photography: Neg. No. 52
Date April 19, 2012
View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012
Survey or E. H. Robinson
Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story Tudor Revival residence features a cross-gable roof and almost square footprint. The exterior walls of the house are clad with brick, including the low curved wing wall which extends from the northeast corner. The gable peak over the front façade has stucco with half-timbering while wood shakes are utilized in the remaining main roof peaks. A lower gable roof extends over the open front porch and features walls clad with brick and an exaggerated stone keystone over the arched front opening. The concrete porch deck extends to the north from the formal entry and is encircled by a low wrought iron railing. The main entry is located under the gable roofed section of the porch, with a string of three double-hung windows below the half-timbered peak. Additional windows include double-hung or fixed lights.

Significance

Date of Construction 1928
Architect/Builder _____
Context(s): _____

This house was constructed during the first phase of development of the Greenlawn Subdivision No. 1 (Bradley 2003).

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14219 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 51

Date April 19, 2012

View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

The two-story Tudor Revival residence has an essentially square footprint, defined largely by the shallow-pitched hipped roof. A large stucco and half-timber steeply pitched peak rises from above the first story windows and pierces the roof line to form a wall dormer. A second lower gable peaked ell extends from the east elevation and includes the primary front entry. Like the lower portion of the house, the entry ell is sheathed with brick veneer. The second story of the house outside the front gable peak is clad with coursed wood shingles. The front door is topped by a stucco arch and a small vent is located in the gable peak. The double-hung windows with three-over-one sashes are placed in strings of three. Remaining windows have the same double-hung sash pattern, but are placed singly or in pairs.

Significance

Date of Construction 1929

Architect/Builder _____

Context(s): _____

This house was constructed during the first phase of development in the Greenlawn Subdivision No. 1 (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14225 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Domestic

Ownership private

Photography: Neg. No. 50

Date April 19, 2012

View East & North Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____



NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)

Description

The one and one-half story Tudor Revival style residence has a square footprint topped by a cross gable roof. Each of the gable peaks, with the exception of the peak at the south elevation where the brick chimney stack is located, has clipped gables. This includes the lower gable peaked wall dormer over the front entry, which is further emphasized by the wide raking cornice that extends down to a few feet above the concrete porch deck. The house has a red brick veneer accented by random dark colored clinker bricks. An open porch extends across the width of the house, defined by an aluminum awning supported by wrought iron posts. A small arched window is located near the peak of the taller cross gable element which also features a horizontal slider window at the first floor level.

Significance

Date of Construction 1929

Architect/Builder _____

Context(s): _____

This house was erected during the first phase of development in the Greenlawn Subdivision No. 1 (Bradley 2003).

Bibliographic References

Bradley, Betsy H.

2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

NR Listed _____ NR Eligible _____ Not NR Elig x More Info. Needed _____
Historic Name _____ USGS Map Title Royal Oak, MI
Area Map Title _____

Common Name _____

District Name _____

Street and Number 14223 Ward Street

Block Number _____

Sub-unit _____

Municipal Unit Detroit

County Wayne

Original Usage Domestic

Present Usage Vacant

Ownership private

Photography: Neg. No. 49

Date April 19, 2012

View East Elevations

36 CFR 61 Y ___ Y/FV ___ N ___

Survey/Date April 19, 2012

Survey or E. H. Robinson

Recorder/Date _____

NR _____ SR _____ NHL _____ CF _____ G _____ TR _____ ER _____ WF _____ SF _____

MH-6 B(5/93)



Description

The one and one-half story Tudor Revival style house has a square footprint and is topped by a cross-gabled roof. Most of the house is sheathed with brick with the exceptions of the gable peaks and small areas of coursed stone at the terminus of the raking cornice the facade. Gables on the north and south elevations are clad with wood shingles while the two gable peaks on the façade feature stucco and half-timbering in their peaks. A pair of brick walls flanks the concrete stairs which access the front door situated in the smaller of the two front gables. Brick piers flank the front entry and are capped by gable peaks adding substance to the otherwise utilitarian doorway. The second gable peak is pierced by a single light window. The wall below the gable features a pair of double-hung one-over-one windows with a cast-stone sill.

Significance

Date of Construction 1928

Architect/Builder _____

Context(s): _____

This house was constructed during the first phase of development in Greenlawn Subdivision No. 1. (Bradley 2003).

Bibliographic References

Bradley, Betsy H.
2003 Historic Evaluation of the Coolidge Terminal, City of Detroit, Wayne County Michigan. Report #03-15. URS, Minneapolis, Minnesota.

MICHIGAN DEPARTMENT OF STATE

MICHIGAN DEPARTMENT OF STATE

APPENDIX B
PROJECT APE PHOTOGRAPHS



Appendix -1. 1313 Compass Street



Appendix -2. 13142 Compass Street



Appendi -3. 1317 Compass Street



Appendi -4. 13178 Compass Street



Appendix -5. 13184 Compass Street



Appendix - . 131 2 Compass Street



Appendix -7. 13310 Compass Street



Appendix -8. 13320 Compass Street



Appendi - . 1332 Compass Street



Appendi -10. 13332 Compass Street



Appendix -11. 13350 Compass Street



Appendix -12. 13500 Compass Street



Appendi -13. 13520 Compass Street



Appendi -14. 13200 Intervale Street



Appendix -15. 14013-14025 Schaefer Highway



Appendix -1 . 14111 Schaefer Highway



Appendix -17. 14141 Schaefer Highway



Appendix -18. 14201 Schaefer Highway



Appendi -21. 14015 Ward Street



Appendi -22. 14023 Ward Street



Appendix -23. 14045 Ward Street



Appendix -24. 14101 Ward Street



Appendix -25. 14151 Ward Street



Appendix -2 . 1417 Ward Street



Appendix -27. 14173 Ward Street



Appendix -28. 14211 Ward Street



Appendix -2 . 1421 Ward Street

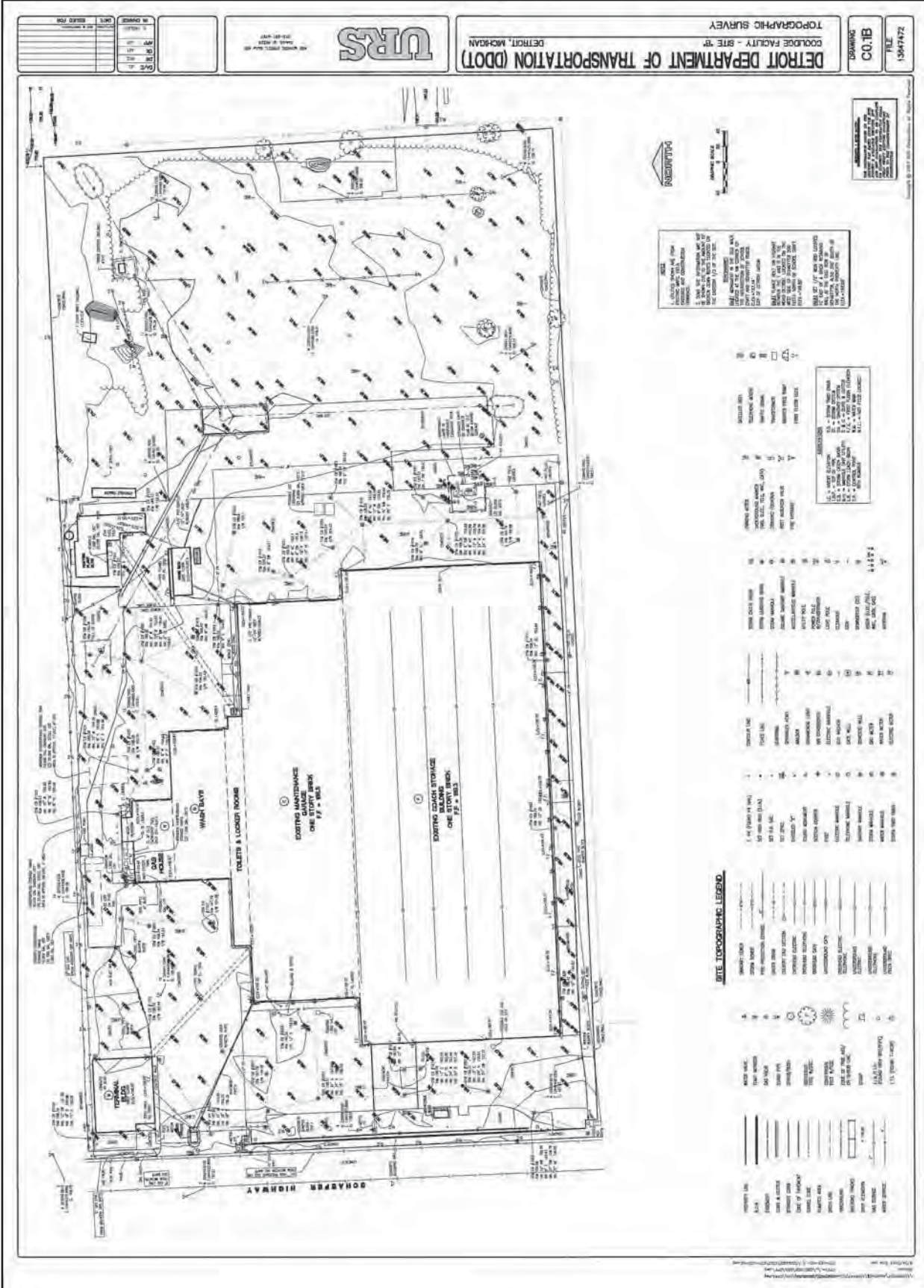


Appendix -30. 14225 Ward Street



Appendix -31. 14233 Ward Street

APPENDIX C
PROJECT PLANS



DATE	BY	REVISION

IN CHARGE
 PROJECT MANAGER
 PROJECT ENGINEER
 PROJECT SURVEYOR

URS
 4800 WOODWARD AVENUE, SUITE 400
 DETROIT, MICHIGAN 48202
 TEL: 313.487.2000
 FAX: 313.487.2001
 WWW.URS.COM

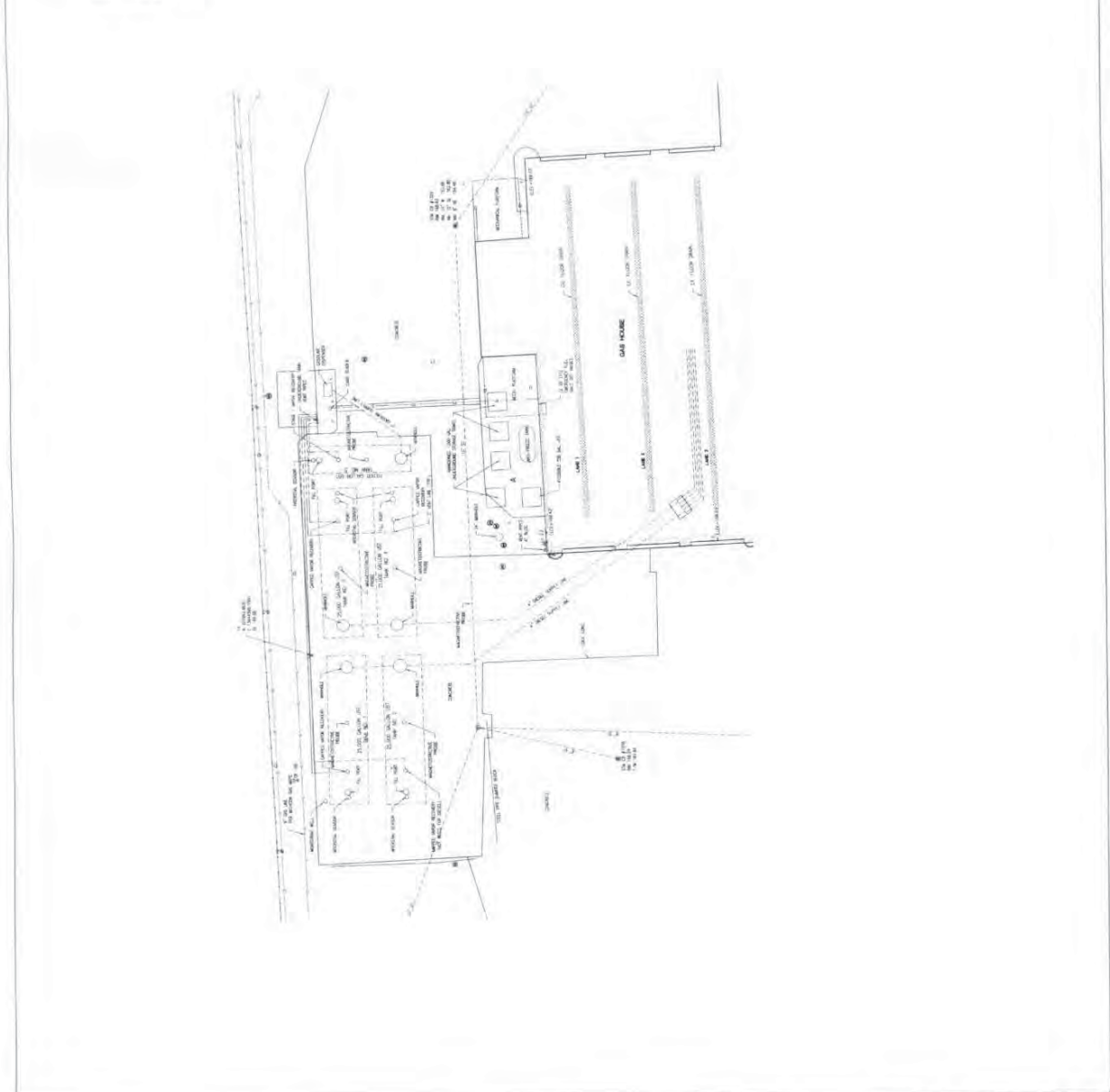
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 COOLIDGE FACILITY - SITE 'B'
 DETROIT, MICHIGAN
 TOPOGRAPHIC SURVEY

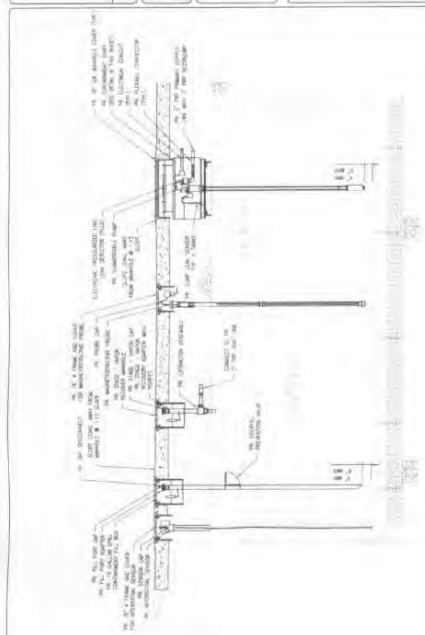
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NOTES:
 1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
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 3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.
 4. ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
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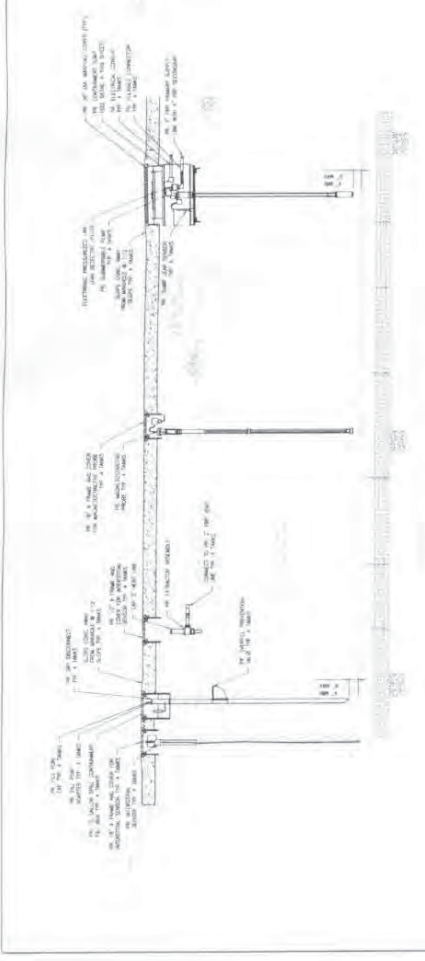
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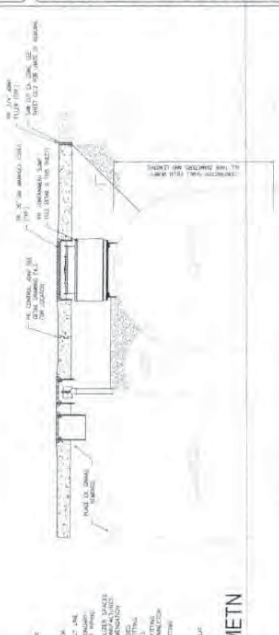




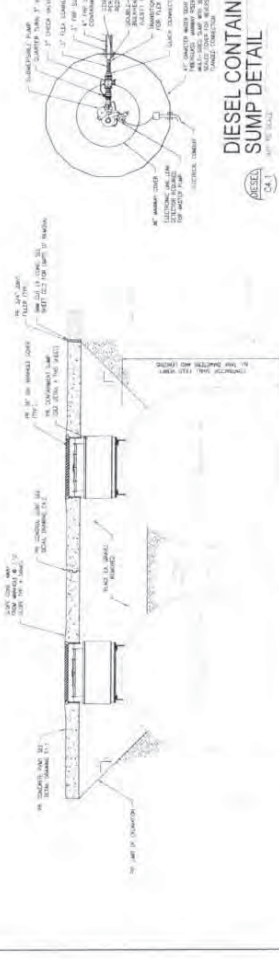
10,000 GALLON GASOLINE UNDERGROUND TANK SECTION



25,000 GALLON DIESEL UNDERGROUND TANK SECTION

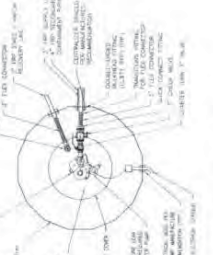


10,000 GALLON GASOLINE UNDERGROUND TANK SECTION



25,000 GALLON DIESEL UNDERGROUND TANK SECTION

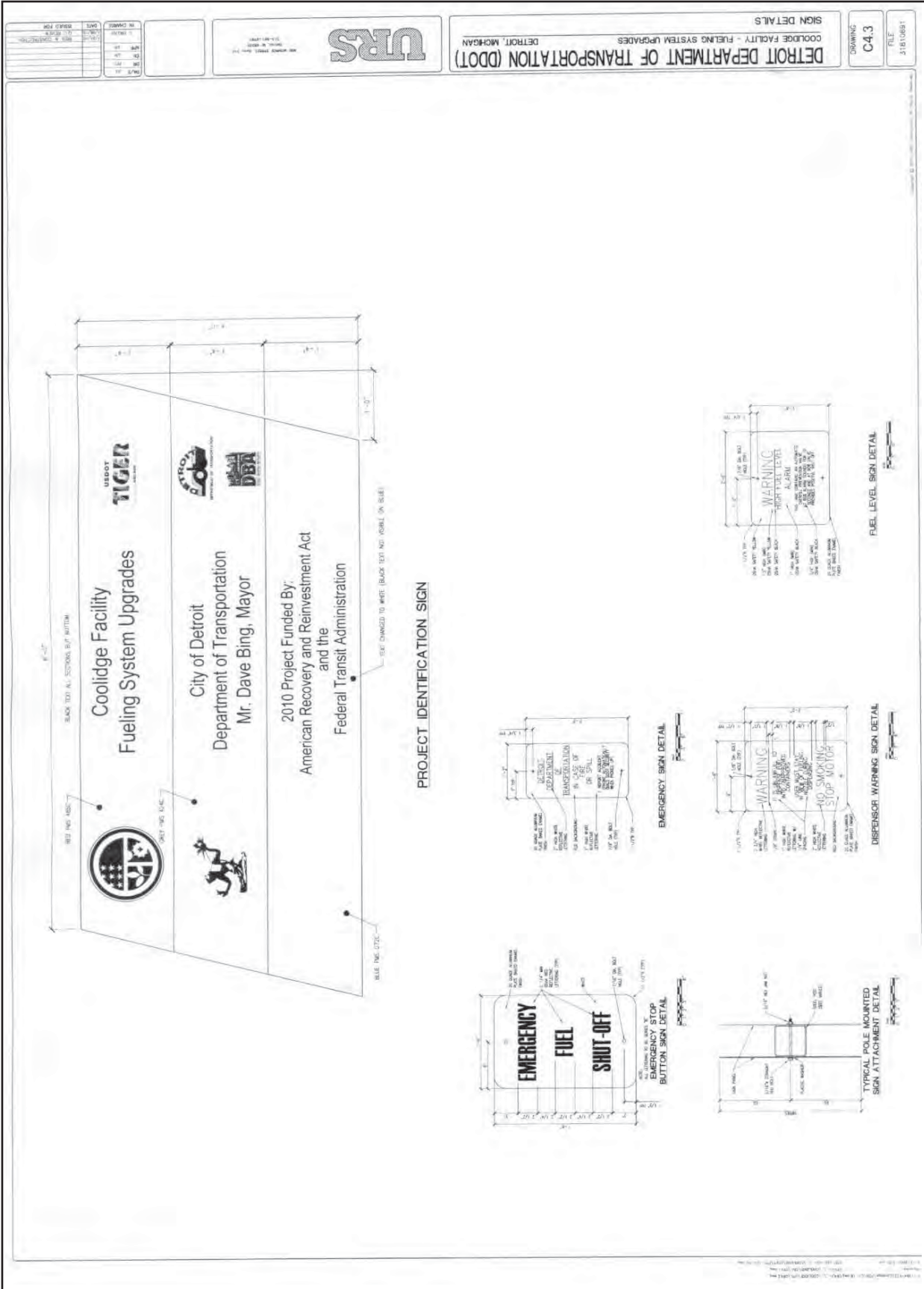
DIESEL CONTAINMENT SUMP DETAIL



GASOLINE CONTAINMENT SUMP DETAIL



- NOTES:
1. CONSULT ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL TANKS.
 2. ALL TANKS SHALL BE INSTALLED WITH THE MANHOLE AT THE SURFACE.
 3. ALL TANKS SHALL BE INSTALLED WITH THE MANHOLE AT THE SURFACE.
 4. CONSULT ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL TANKS.
 5. CONSULT ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL TANKS.
 6. CONSULT ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL TANKS.



Appendix C-11.

NO.	DATE	BY	DESCRIPTION
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2	08/11/11	URS	ISSUED FOR PERMITTING
3	08/11/11	URS	ISSUED FOR PERMITTING
4	08/11/11	URS	ISSUED FOR PERMITTING
5	08/11/11	URS	ISSUED FOR PERMITTING
6	08/11/11	URS	ISSUED FOR PERMITTING
7	08/11/11	URS	ISSUED FOR PERMITTING
8	08/11/11	URS	ISSUED FOR PERMITTING
9	08/11/11	URS	ISSUED FOR PERMITTING
10	08/11/11	URS	ISSUED FOR PERMITTING

NOTE:
 1. ALL DIMENSIONS ARE IN FEET AND INCHES.
 2. ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
 3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS NOTED OTHERWISE.
 4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS NOTED OTHERWISE.
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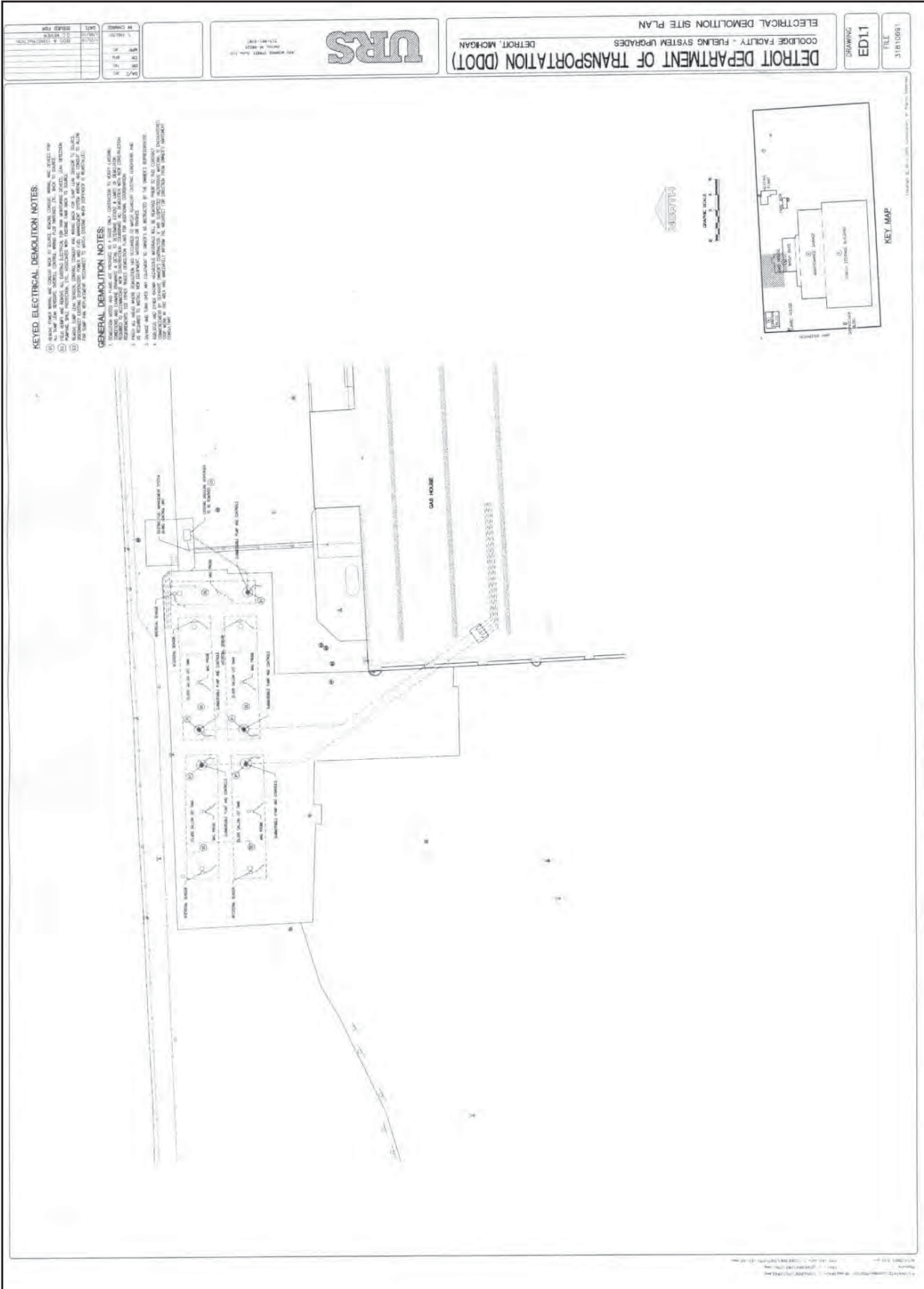
LEGEND:
 --- EXISTING
 --- PROPOSED
 --- TO BE REMOVED
 --- TO BE RELOCATED
 --- TO BE ADDED
 --- TO BE DELETED



EXISTING FUEL SUPPLY SCHEMATIC



PROPOSED FUEL SUPPLY SCHEMATIC



Appendix C-14.

NO. OF SHEETS	1
TOTAL NO. OF SHEETS	1
DATE	11/11/08
BY	W. J. ...
CHECKED BY	...
IN CHARGE	...

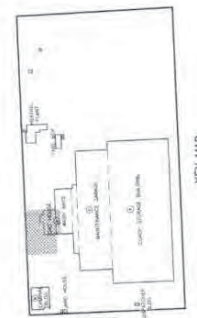
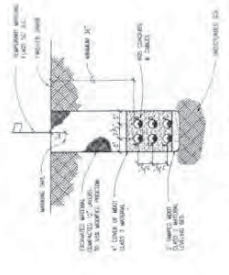
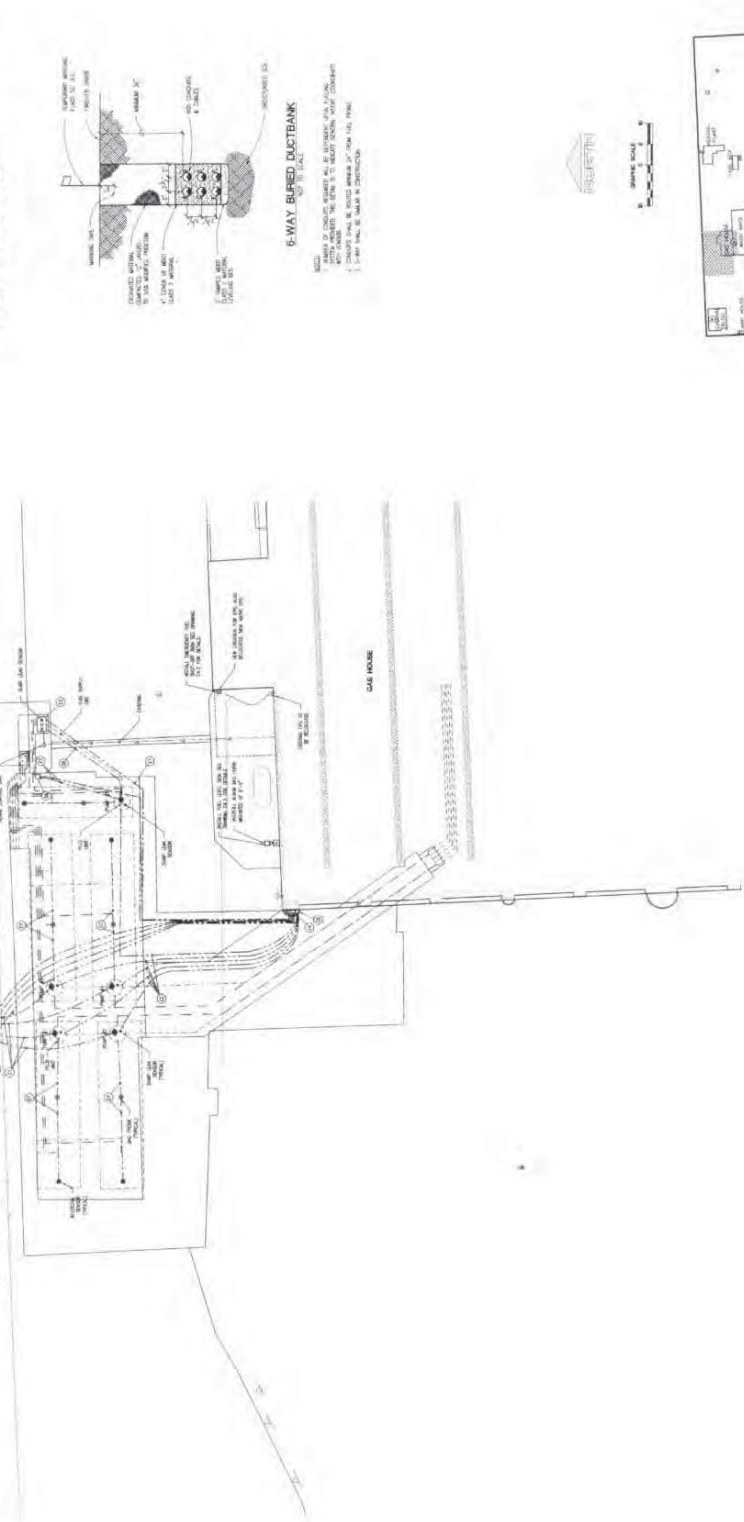


DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
 COOLIDGE FACILITY - FUELING SYSTEM UPGRADES
 ELECTRICAL NEW WORK SITE PLAN
 DETROIT, MICHIGAN

DRAWING
 EP11
 FILE
 31810881

- KEYED ELECTRICAL NEW WORK NOTES:**
1. SEE ELECTRICAL SPECIFICATIONS FOR ALL ELECTRICAL WORK.
 2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL CITY AND STATE REGULATIONS.
 3. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE DETROIT DEPARTMENT OF TRANSPORTATION (DDOT) STANDARDS.
 4. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE DETROIT DEPARTMENT OF TRANSPORTATION (DDOT) STANDARDS.
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 9. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE DETROIT DEPARTMENT OF TRANSPORTATION (DDOT) STANDARDS.
 10. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE DETROIT DEPARTMENT OF TRANSPORTATION (DDOT) STANDARDS.

- GENERAL ELECTRICAL NOTES:**
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APPENDIX D

Agency Correspondence

U.S. Environmental Protection Agency
Michigan Department of Environmental Quality
City of Detroit, Department of Environmental Affairs
U.S. Fish and Wildlife Service
Michigan Natural Features Inventory



June 15, 2012

Mr. Kenneth Westlake
U.S. Environmental Protection Agency
Environmental Planning and Evaluation Unit
77 W. Jackson Blvd., Mail Code E-19
Chicago, IL 60604-3507

Re: Project Review Request for Proposed Improvements and New Construction at the Coolidge Terminal Facility, Detroit, Wayne County, Michigan

Dear Mr. Westlake:

On behalf of the Detroit Department of Transportation (DDOT), URS Corporation is submitting information on the proposed Coolidge Terminal project for your review. URS has been retained by DDOT to prepare information for a federal Categorical Exclusion for the proposed project. At your earliest convenience, we would appreciate your agency's comments and any available information on resources under your agency's purview, to complement our efforts during this phase of work.

The Detroit Department of Transportation (DDOT) is proposing a construction project at its Coolidge Terminal Facility located at 14044 Schaefer Highway in the City of Detroit. The Coolidge Facility is one of four facilities that DDOT owns and operates to service its bus fleet. DDOT is seeking Federal Transit Administration (FTA) funding assistance and is therefore subject to compliance with the National Environmental Policy Act (NEPA) of 1969, as amended. Exhibits including a project location map (Figure 1) and site map (Figure 2) are attached.

Existing Site Description

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Project Description

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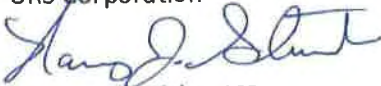
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If you have any questions or need additional information to formulate your agency's response, please contact me at (612) 373-6363 or nancy.stavish@urs.com. Thank you for your assistance with this project.

Sincerely,

URS Corporation



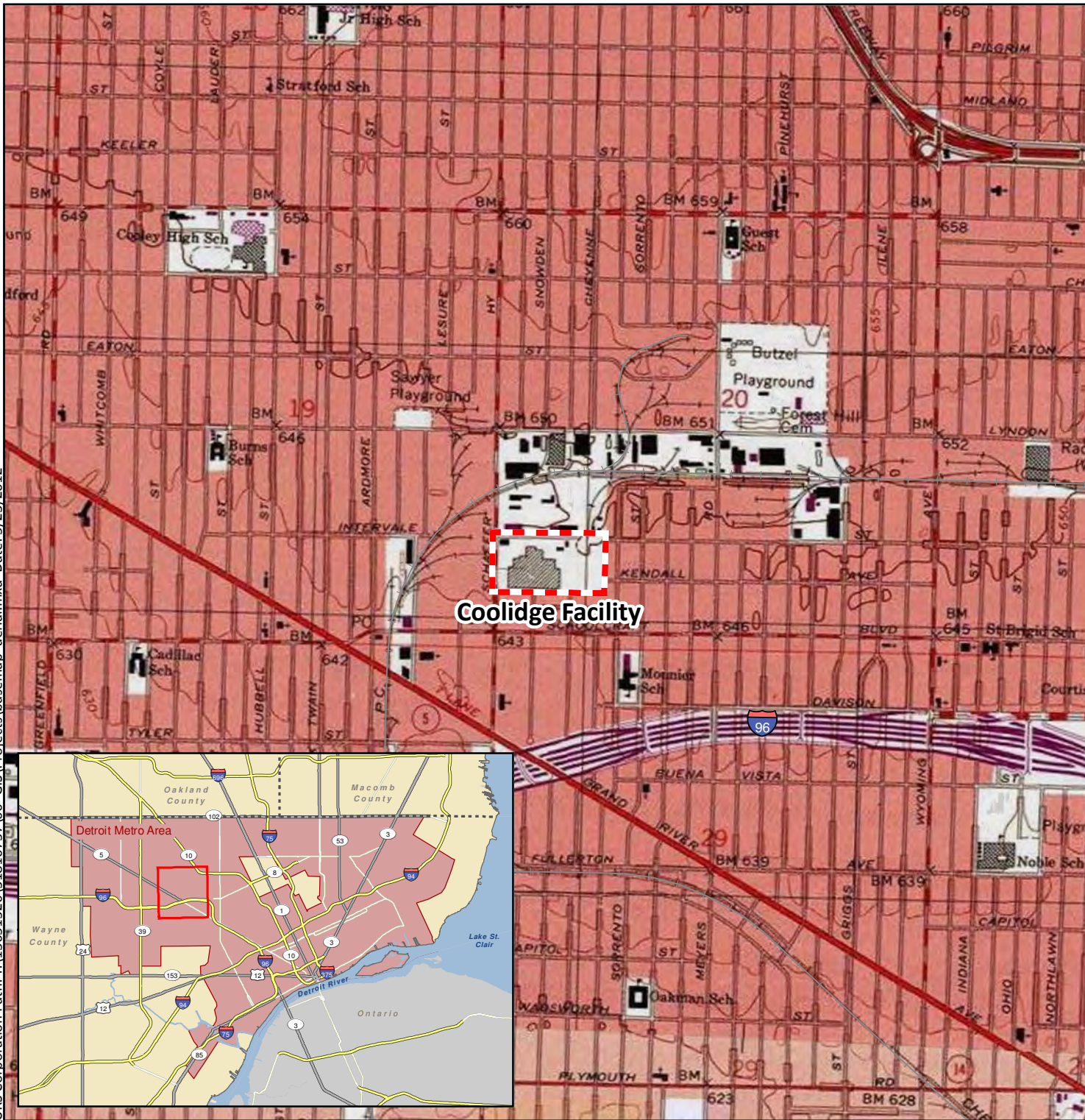
Nancy J. Stavish, AICP

Senior Environmental Planner

Enclosures as noted

cc: Warren Emerson, DDOT

URS Corporation Path: T:\13651326\31810757\06_GIS\Projects\basemap_aerial.mxd Date: 5/23/2012

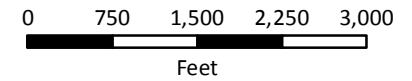


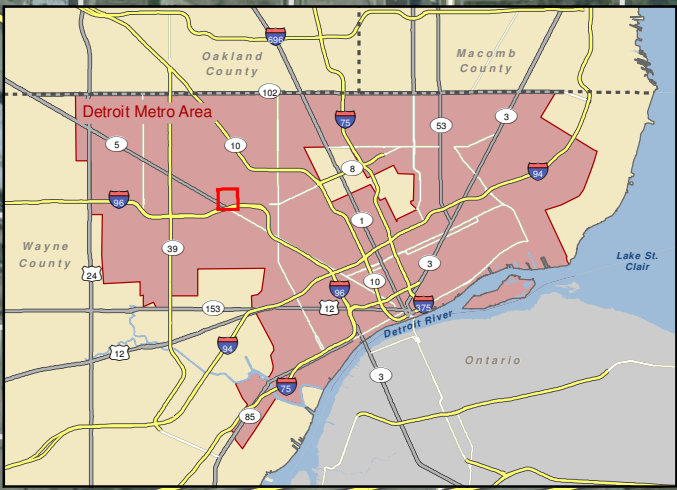
Coolidge Facility Categorical Exclusion

Figure 1
Coolidge Facility Project Location



T1S, R11E, Section 20





Coolidge Facility Categorical Exclusion

Figure 2
Coolidge Facility Project Site

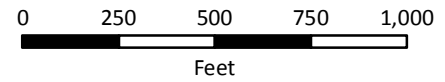


Legend

- Existing
- Proposed New Building
- Remove Building
- Remove and Replace

Additional Buildings:

- | | |
|------------------------|---------------------------|
| 1. Dispatcher Building | 5. Heating Plant Building |
| 2. Guard House | 6. Fare Box Building |
| 3. Terminal Building | 7. 1 Story Brick Building |
| 4. Fueling System Area | 8. Tower Control Building |



From: [Elizabeth Poole](#)
To: [Stavish, Nancy](#)
Subject: Re: Coolidge Terminal Facility
Date: Monday, August 13, 2012 8:37:19 AM

Hi Nancy,

EPA gave the provided materials a cursory review and decided not to provide comments.

Thank you for checking in.

Regards,
Elizabeth

Elizabeth Poole
Environmental Scientist
U.S. Environmental Protection Agency, Region 5
NEPA Implementation
77 W Jackson Blvd, E-19J
Chicago, IL 60604
Phone: 312-353-2087

Please note that starting October 1, 2012, EPA will not accept paper copies or CDs of EISs for filing purposes; all submissions on or after October 1, 2012 must be made through new electronic EIS submittal tool: *e-NEPA*. While this system eliminates the need to submit paper or CD copies to EPA to meet filing requirements, electronic submission does not change requirements for distribution of EISs for public review and comment, including distribution of EISs to EPA Regional Offices for review. To begin using *e-NEPA*, you must first register with EPA's electronic reporting site - https://cdx.epa.gov/epa_home.asp

From: "Stavish, Nancy" <nancy.stavish@urs.com>
To: Elizabeth Poole/R5/USEPA/US@EPA,
Date: 08/10/2012 12:54 PM
Subject: Coolidge Terminal Facility

Hello Elizabeth,

I am writing to inquire about the status of the anticipated EPA response letter.

If a response letter has been prepared and sent to FTA, may I request a copy.

If the response letter is still forthcoming, could you provide the timeframe for when it might be sent?

Have a nice weekend.
Nancy

Nancy J. Stavish, AICP
Sr. Environmental Planner
URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN 55402
612.373.6363 Direct
612.370.1378 Fax
nancy.stavish@urs.com

From: Stavish, Nancy
Sent: Tuesday, July 03, 2012 10:17 AM
To: 'Elizabeth Poole'
Subject: RE: Coolidge Terminal Facility

Hello Elizabeth,

Thank for you in advance for providing an agency response letter.

As you requested, the FTA contact person is Sharletha Johnson 200 West Adams Street, Suite 329 Chicago, IL 60606 (312) 353-3869. Email Sharletha.Johnson@DOT.GOV

To receive a copy of the letter, my address is listed below .

Nancy J. Stavish, AICP
Sr. Environmental Planner
URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN 55402
612.373.6363 Direct
612.370.1378 Fax
nancy.stavish@urs.com

From: Elizabeth Poole [<mailto:Poole.Elizabeth@epamail.epa.gov>]
Sent: Friday, June 29, 2012 11:26 AM
To: Stavish, Nancy
Subject: Coolidge Terminal Facility

Hi Nancy,

EPA received your correspondence on the Coolidge Terminal Facility in Detroit Michigan. We will provide a few comments in a forthcoming letter. We will send the letter to FTA and copy you. Who are you working with at FTA?

Regards,
Elizabeth

Elizabeth Poole
Environmental Scientist
U.S. Environmental Protection Agency, Region 5
NEPA Implementation
77 W Jackson Blvd, E-19J
Chicago, IL 60604
Phone: 312-353-2087

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.



June 15, 2012

Michigan Department of Environmental Quality
Detroit Field Office
Cadillac Place
3058 West Grand Boulevard, Suite 2-300
Detroit, MI 48202-6058

Re: Project Review Request for Proposed Improvements and New Construction at the Coolidge Terminal Facility, Detroit, Wayne County, Michigan

Dear Sir or Madam:

On behalf of the Detroit Department of Transportation (DDOT), URS Corporation is submitting information on the proposed Coolidge Terminal project for your review. URS has been retained by DDOT to prepare information for a federal Categorical Exclusion for the proposed project. At your earliest convenience, we would appreciate your agency's input regarding potential impacts related to resources under your agency's purview and permit and mitigation requirements to complement our efforts during this phase of work.

The Detroit Department of Transportation (DDOT) is proposing a construction project at its Coolidge Terminal Facility located at 14044 Schaefer Highway in the City of Detroit. The Coolidge Facility is one of four facilities that DDOT owns and operates to service its bus fleet. DDOT is seeking Federal Transit Administration (FTA) funding assistance and is therefore subject to compliance with the National Environmental Policy Act (NEPA) of 1969, as amended. Exhibits including a project location map (Figure 1) and site map (Figure 2) are attached.

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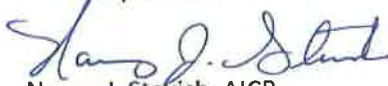
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Sincerely,

URS Corporation



Nancy J. Stavish, AICP

Senior Environmental Planner

Enclosures as noted

cc: Warren Emerson, DDOT



June 15, 2012

Raymond A. Scott, M.P.H.
General Manager
City of Detroit, Department of Environmental Affairs
660 Woodward Avenue, Suite 1800
First National Building
Detroit, MI 48226

Re: Project Review Request for Proposed Improvements and New Construction at the Coolidge Terminal Facility, Detroit, Wayne County, Michigan

Dear Mr. Scott:

On behalf of the Detroit Department of Transportation (DDOT), URS Corporation is submitting information on the proposed Coolidge Terminal project for your review. URS has been retained by DDOT to prepare information for a federal Categorical Exclusion for the proposed project. At your earliest convenience, we would appreciate your department's comments and any available information on resources under your agency's purview to complement our efforts during this phase of work.

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Sincerely,

URS Corporation



Nancy J. Stavish, AICP

Senior Environmental Planner

Enclosures as noted

cc: Warren Emerson, DDOT



June 15, 2012

Mr. Scott Hicks, Field Office Supervisor
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road
East Lansing, MI 48823

Re: Project Review Request for Proposed Improvements and New Construction at the Coolidge Terminal Facility, Detroit, Wayne County, Michigan

Dear Mr. Hicks:

On behalf of the Detroit Department of Transportation (DDOT), URS Corporation is submitting information on the proposed Coolidge Terminal project for your review. URS has been retained by DDOT to prepare information for a federal Categorical Exclusion for the proposed project. At your earliest convenience, we would appreciate your agency's comments and any available information on resources under your agency's purview, to complement our efforts during this phase of work.

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Sincerely,

URS Corporation



Nancy J. Stavish, AICP

Senior Environmental Planner

Enclosures as noted

cc: Warren Emerson, DDOT



June 15, 2012

Michigan Natural Features Inventory
Information Services and Requests
P.O. Box 13036
Lansing, MI 48901

Re: Rare Species Review Request for Proposed Improvements and New Construction at the Coolidge Terminal Facility, Detroit, Wayne County, Michigan
T1S R11E Section 20

Dear Sir or Madam:

On behalf of the Detroit Department of Transportation (DDOT), URS Corporation is submitting information on the proposed Coolidge Terminal project for your review and formally requests a Rare Species Review based on viable records in the Natural Heritage Database that are located within a mile and a half of the project site.

The Detroit Department of Transportation (DDOT) is proposing a construction project at its Coolidge Terminal Facility located at 14044 Schaefer Highway in the City of Detroit. The Coolidge Facility is one of four facilities that DDOT owns and operates to service its bus fleet. DDOT is seeking Federal Transit Administration (FTA) funding assistance and is therefore subject to compliance with the National Environmental Policy Act (NEPA) of 1969, as amended. Exhibits including a project location map (Figure 1) and site map (Figure 2) are attached.

URS has been retained by DDOT to prepare information for a federal Categorical Exclusion for the proposed project. URS requests that your agency review the proposed project and provide information about federal and state endangered, threatened, and rare species, high quality natural communities, and significant natural areas within the project area. Any information provided will be used for further project development and will be included in the documented Categorical Exclusion. All stipulations and requirements for using this data, as prescribed by the Michigan Natural Features Inventory, will be followed.

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Project Description

The Coolidge Facility construction project proposes to modernize and improve existing DDOT equipment, buildings and property, as well as new construction. The proposed project would be contained at the site and upon completion would result in the facility returning to its normal operations. Proposed construction would not result in any additional taking of land; therefore, no acquisitions or relocations are required. The proposed project is a renovation of existing equipment and infrastructure and the construction of new facilities on site.

The proposed project includes interior work on the existing buildings, repair and/or replacement of roofs on existing buildings, demolition and removal of the existing fare box building and the existing boiler/power house, and the construction of a new fare box building and the addition of an approximately 100,000-square-foot bus storage building on the eastern portion of the parcel. Other improvements would include fueling system upgrades, new concrete pavement and curbs, new guardrail system, upgrading locker rooms, rehabilitation of the terminal (administration) building, replacement of existing perimeter fencing, a new security system, interior painting and lighting upgrades, new primary electrical service and a new emergency generator system. Approximately one acre of vegetation would be removed including approximately 11 trees ranging in diameter from 4 to 15 inches. Upon completion of the proposed project, the Coolidge Facility would resume its normal operations. Vehicle activity at the site is not expected to increase in the near future.

Potential Adverse Impacts

Since the proposed project would be contained at the site, few impacts are anticipated. Short-term adverse impacts would occur during the construction of the proposed project and may include localized traffic and utility impacts, as well as noise, vibration and air quality impacts. Impacts to soils and vegetation may create a short-term impact to water quality from storm water run-off. Potential long-term impacts may include adverse effects to historic resources on site.

If you have any questions or need additional information to formulate your agency's response, please contact me at (612) 373-6363 or nancy.stavish@urs.com. Thank you for your assistance with this project.

Sincerely,

URS Corporation



Nancy J. Stavish, AICP

Senior Environmental Planner

Enclosures as noted

Sent via e-mail to mnfi@msu.edu

cc: Warren Emerson, DDOT

From: [Sanders, Mike \(DNR\)](#)
To: [Stavish, Nancy](#)
Subject: RE: Rare Species Review Request
Date: Wednesday, June 20, 2012 11:56:32 AM
Attachments: [1104 URS Corporation RSR.doc](#)

Hi Nancy,

Attached are the results of the Rare Species Review for the Coolidge Terminal Facility in Detroit, MI. Please notify me if you have questions.

Thank you again for allowing us to review this activity.

V/r,

Mike

From: Stavish, Nancy [mailto:nancy.stavish@urs.com]
Sent: Friday, June 15, 2012 11:22 AM
To: mnfi@msu.edu
Subject: Rare Species Review Request

Dear Michigan Natural Features Inventory:

Please consider this e-mail as a request for a Rare Species Review (20-day turnaround).

The following information is provided:

1. Name and address of the company, organization or individual making the request

Nancy J. Stavish, AICP
Sr. Environmental Planner
URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN 55402
612.373.6363 Direct
612.370.1378 Fax
nancy.stavish@urs.com

2. Brief description of the proposed project
Please see attached letter and maps
3. Description of what is there now (building, type of vegetation, recent disturbance)
Please see attached letter and maps
4. Location of the area to be searched listed by PLSS town, range and section
Please see attached letter and maps

Thank you.

Nancy J. Stavish, AICP
Sr. Environmental Planner
URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN 55402

612.373.6363 Direct
612.370.1378 Fax
nancy.stavish@urs.com

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MICHIGAN STATE
UNIVERSITY | Extension

Nancy J. Stavish, AICP
URS Corporation
Fifth Street Towers
100 South Fifth Street, Suite 1500
Minneapolis, MN 55402

June 20, 2012

Re: Rare Species Review #1104 – Coolidge Terminal Facility, Detroit, MI

Dear Nancy:

The location for the proposed project was checked against known localities for rare species and unique natural features, which are recorded in the Michigan Natural Features Inventory (MNFI) natural heritage database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features. The absence of records in the database for a particular site may mean that the site has not been surveyed. The only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Michigan Department of Natural Resources (MDNR), Wildlife Division. Responsibility to protect endangered and threatened species is not limited to the lists below. Other species may be present that have not been recorded in the database.

According to the natural heritage database, it is **highly unlikely** that listed species will be impacted by this activity. However, MNFI cannot fully assess potential impacts without an on-site survey. Be mindful that MNFI is not a regulatory agency. MDNR Wildlife Division is responsible for issuing permits and enforcement relative to the take of endangered and threatened species. These data can be submitted to the Wildlife Division should it be determined this project requires an endangered species permit. Their contact person is Lori Sargent, MDNR Wildlife Division, P.O. Box 30180, Lansing, MI 48909. Phone: 517.373.1263, email: SargentL@michigan.gov. Should MDNR require more information regarding your project, MNFI offers more detailed reviews including field surveys which I would be happy to discuss with you.

Sincerely,

Michael Sanders
Environmental Review Specialist/Zoologist
Michigan Natural Features Inventory



MSU EXTENSION

**Michigan Natural
Features Inventory**

PO Box 13036
Lansing MI 48901

(517) 373-1552
Fax (517) 373-9566

mnfi.anr.msu.edu

According to the natural heritage database there are no legally protected species within 1.5 miles of #1104

Table 1: Special concern* species or other features within 1.5 miles of #1104

SNAME	SCOMNAME	FIRSTOBS	LASTOBS	USES	SPROT	GRANK	SRANK	ELCAT
<i>Penstemon pallidus</i>	Pale beard tongue	1939-07	1939-07		SC	G5	S3	Plant
<i>Cerastium velutinum</i>	Field chickweed	1867-05	1867-05		X	G5T4?	SX	Plant

*Special concern species and natural communities are not protected under endangered species legislation but efforts should be made to minimize any or all impacts.

Codes to accompany Table 1:

State Protection Status Code Definitions (SPROT)

E: Endangered

T: Threatened

SC: Special concern

Global Heritage Status Rank Definitions (GRANK)

The priority assigned by NatureServe's national office for data collection and protection based upon the element's status throughout its entire world-wide range. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 = imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3: Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4: Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

Q: Taxonomy uncertain

State Heritage Status Rank Definitions (SRANK)

The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

S1: Critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.

S2: Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.

S3: Rare or uncommon in state (on the order of 21 to 100 occurrences).

S4 = apparently secure in state, with many occurrences.

S5 = demonstrably secure in state and essentially ineradicable under present conditions.

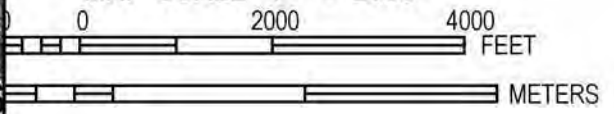
SX = apparently extirpated from state.

APPENDIX E

FEMA Flood Insurance Rate Map



MAP SCALE 1" = 2000'



NFIIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0100E

FIRM
FLOOD INSURANCE RATE MAP

**WAYNE COUNTY,
MICHIGAN**
(ALL JURISDICTIONS)

PANEL 100 OF 575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DETROIT CITY OF	260222	0100	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
26163C0100E
EFFECTIVE DATE
FEBRUARY 2, 2012

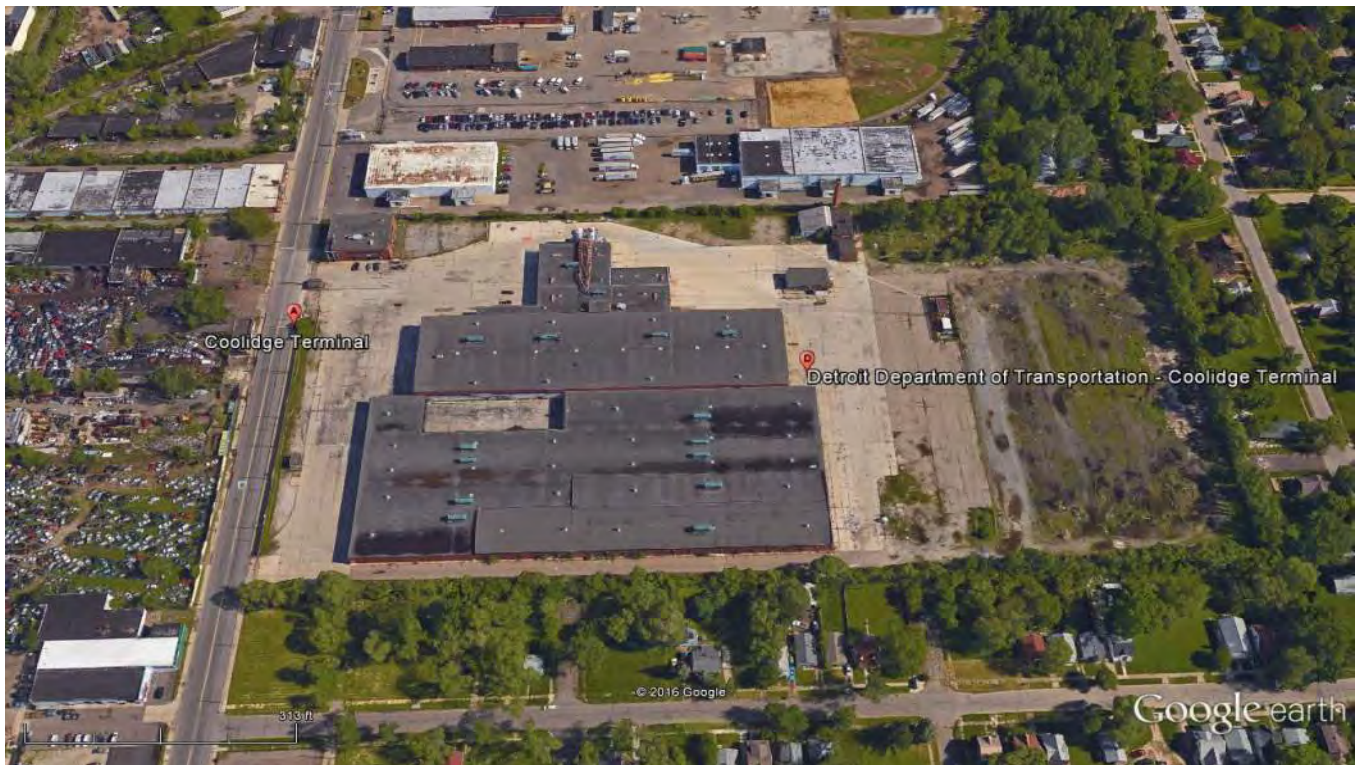
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

DDOT-Coolidge Replacement Bus Terminal and HR&O

Preliminary Space Needs Program - Concept Design Estimate

April 27, 2017



Owner
Detroit Department of Transportation



Cost Estimator:



75 Arlington Street
Boston, MA 02116
(617) 426 7330

SUMMARY

Under the direction of the Detroit Department of Transportation (DDOT) a preliminary investigation of function and cost implications was undertaken for the phased consolidation, upgrade and redevelopment of their bus maintenance facilities at Coolidge Terminal, Main Garage at 1301 East Warren Avenue, Gilbert and Shoemaker Terminal (s). The plan consolidated operations and maintenance from these four facilities into two; Coolidge and Shoemaker facilities in three phases. In Phase 1, the Coolidge facility would be re-built to independently accommodate the maintenance and storage of 200 buses and eliminate the need for the aging Gilbert facility. In Phase 2, the Shoemaker facility would be modified to eliminate its reliance on heavy maintenance functions that are being performed at the Main Garage on East Warren Street, thereby eliminating the need for that aging facility. Finally, the capacity for maintenance and storage at the Coolidge facility would be increased by 100 buses in Phase 3 to accommodate DDOT's ultimate design fleet size.

After developing an initial construction cost estimate for these three phases, it was determined that the estimate for Phase 1 was approximately 8% to 10% higher than the projected funding that could realistically be made available for this phase. Therefore, it was requested that alternatives be developed to reduce the estimated construction cost of Phase 1 by \$9M to \$10M, in a manner that least or not at all, compromised the ultimate maintenance operations plan for the system. Three options were developed to address this goal. These are described below followed by their respective financial cost savings.

OPTION A

This option externalizes bus circulation, stacking buses in the fully enclosed storage area / building and thereby reduces the square footage required for this function. All other items remain the same as previously shown in space needs program for a fleet of 200 buses. This reduction in building size would lower the cost to under \$90M by taking away the needed square footage to provide indoor circulation of buses between storage, fueling and washing as part of routine maintenance. This would require buses to circulate from interior bus parking to an exterior drive, back inside.

Pros:

1. All 200 buses stored inside.
2. If this condition is a long term acceptable practice it would reduce construction cost in Phase 3 as well.

Cons:

1. Daily servicing is inefficient as buses would be exposed to wet and cold weather between servicing and storage.
2. Increased operational costs.
3. If this condition is not a long term acceptable practice, it would need to be corrected in Phase 3, however optimization of maintenance operations in later phases would be more complicated as some selective demolition and reconfiguration would be needed to allow interior circulation.

OPTION B

This option would lower the size of fleet to be maintained in Phase 1, from 200 buses to 180 buses and would translate to smaller Phase 1 square footage requirements in the following areas:

- Maintenance Bays
- Indoor Agency Vehicle Parking
- Personal Vehicle Parking

Pros:

1. All interior (protected) bus storage, fuel and wash and circulation between these functions would be interior (protected).
2. Operational costs could be optimized for a fleet size that is 90% of what is desired in Phase 1.

Cons:

1. Reduced fleet size in Phase 1
2. Increased construction cost of Phase 3.

OPTION C

All items to remain the same as previously shown in space needs program for a fleet of 200 buses, except indoor agency vehicle parking would be canopy covered, with wind screens using openings for natural ventilation. This option would not provide a tempered, indoor space, but would lower the cost to under \$90M.

Pros:

1. Would accommodate storage of 200 buses.
2. Canopy covered area could be more easily converted to tempered, interior space in Phase 3.
3. Bus circulation would be "internal" to the storage area.

Cons:

1. Buses would be stored in a covered, but non-tempered, at times freezing, environment.
2. Storage building / area could be fairly uncomfortable in inclement weather.

Option A

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option A
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option		GFA	PHASE 1	PHASE 3	COST/SF
EXECUTIVE SUMMARY - OPTION A					
New Operations & Maintenance Facility	Phase 1	94,158	\$17,890,020		\$190.00
	Phase 3	13,500		\$2,767,500	\$205.00
Maintenance Building equipment	Phase 1		\$8,273,061		
	Phase 3			\$1,764,860	
Body Repair & Paint	Phase 1	13,800	\$2,622,000		\$190.00
Parts storage	Phase 1	10,883	\$2,067,770		\$190.00
Fuel/Wash/Service	Phase 1	20,614	\$4,947,360		\$240.00
Indoor Agency vehicle parking	Phase 1	109,200	\$13,650,000		\$125.00
	Phase 3	57,888		\$7,525,440	\$130.00
Fare box Building		2,500	\$650,000		\$260.00
Plant Maintenance		6,430	\$1,221,700		\$190.00
Personal Vehicle parking	Phase 1	85,440	\$2,136,000		\$25.00
Personal Vehicle parking	Phase 3	44,800		\$1,232,000	\$27.50
Other Site Areas		13,760	\$206,400		\$15.00
	Sub-total	472,973	\$53,664,311	\$13,289,800	\$141.56
Design, Program and Pricing Contingency	10.0%		\$5,366,431	\$1,328,980	\$14.16
	Design Contingency sub-total		\$5,366,431	\$1,328,980	\$14.16
	Scope of work subject to Markups (Trade Costs)		\$59,030,742	\$14,618,780	\$155.72
Markups					
2	General Conditions;	4.5%	\$2,656,383	\$657,845	\$7.01
3	General requirements	5.5%	\$3,246,691	\$804,033	\$8.56
4	Performance & payment bonds	1.00%	\$649,338	\$160,807	\$1.71
5	Builders Risk	0.70%	\$454,537	\$112,565	\$1.20
6	Owner-Controlled Insurance Policy (OCIP)	1.20%	\$779,206	\$192,968	\$2.06
7	Permit	0.50%	\$324,669	\$80,403	\$0.86
8	Fee - (based on 1 through 3)	2.75%	\$1,785,680	\$442,218	\$4.71
9	Preconstruction services	1	\$150,000	\$90,000	\$0.51
	Sub-total		\$10,046,504	\$2,540,838	\$26.61
*	CM's Contingency (2.5% of 1 through 3)	2.5%	\$1,623,345	\$402,016	\$4.28
	Estimated GMP 2nd Qtr 2017		\$70,700,591	\$17,561,635	\$186.61

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option A
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option		GFA	PHASE 1	PHASE 3	COST/SF
DDOT Soft Costs					
1	A/E fees including CA (10% on Phase 1, 11% on Phase 2)		\$7,070,059	\$1,931,780	
2	R. E / Field Engineering	3%	\$2,121,018	\$526,849	
3	Printing/Advertising		\$50,000	\$50,000	
4	Legal		\$90,000	\$70,000	
5	Commissioning, Testing & inspection		\$350,000	\$250,000	
6	IT		\$300,000	\$100,000	
7	F,F and E,		\$175,000	\$75,000	
8	Site Surveys		\$80,000	\$30,000	
9	Environmental		\$175,000	\$75,000	
10	Funding Applications		\$125,000		
11	Peer Reviews		\$115,000	\$35,000	
			Soft Costs Total	\$10,651,077	\$3,143,629
18	Owner Contingency (allowance - to be set by DDOT)	7.50%	\$6,101,375	\$1,552,895	
	TOTAL PROJECT COST, CURRENT		\$87,453,043	\$22,258,159	
	Escalation to 2nd Qtr 2019 start of construction	2.25%	\$1,967,693		
	PHASE 1 TOTAL PROJECT COST, 2ND QTR 2018		\$89,420,737		
	Escalation to 2nd Qtr 2024 start of construction	18.58%		\$4,135,266	
	PHASE 3 TOTAL PROJECT COST, 2ND QTR 2024			\$26,393,424	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option A**

Denotes- space may be on upper level

April 28, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space
OPERATIONS								
Administration								
Superintendent	E	12 x 18	216	include small conference table	1	1	216	
Assistant Superintendent	E	12 x 16	192		1	1	192	
Operations Supervisor	E	10 x 12	120		2	2	240	
Street Supervisors	E			adjacent to Operator's Lounge	6			
Meeting Area	O	15 x 24	360	to accommodate up to 15 people		1	360	
Workstations	O	6 x 6	36			6	216	
Counseling / Small Conf.	E	10 x 10	100			1	100	
Lost & Found	E	6 x 8	48			1	48	
Lobby / Waiting Area	O	10 x 15	150	seating for 4 people, bulletin boards, displays. At entrance to building.		1	150	
Waiting / Reception	O	10 x 12	120	seating for 4 people, adj. to Administration suite		1	120	
Unisex Restroom	E	8 x 8	64			1	64	
Copy / Work Room	E	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Recycling Area	A			within Copy / Work Room				
Training								
Training Room	E	20 x 30	600	20 people in each with divider between		2	1,200	
Training Office	E	12 x 20	240	adjacent to Training Room, with 2 desks	2	1	240	
A/V Storage	E	10 x 10	100	adjacent to Training Room		1	100	
Central Dispatch Suite								
Open Area	O	30 x 50	1,500		1	1	1,500	
Depot Office								
Depot Clerk	O	8 x 8	64	adjacent to Dispatch Counter	3	3	192	
Book Person	O	8 x 8	64		1	1	64	
Dispatcher	O	8 x 8	64		1	1	64	
Break Area	E	10 x 15	150	tables and chairs		1	150	
Unisex Restroom	E	8 x 8	64			1	64	
Driver Check-In Area	A	14 x 15	210			1	210	
Storage	E		175	schedules / records / transfers		1	175	
Driver Areas								
Operator's Lounge	E		*	To be shared/combined with vehicle maintenance tables / chairs, TV. 50 drivers at one time.	325	1	2,000	
Wellness Center	E		*	weights, treadmills, floor space for fitness activities		1	750	
Quiet Room	E	10 x 20	200			1	200	
Recreation Room	A		*	pool table, darts, etc, alcove off Lounge.		1	750	
Lunchroom	A		*	tables / chairs, TV. Open to Lounge.		1	1,000	
Vending / Kitchenette	A	10 x 20	200	Vending, refrig, microwave, sink		1	200	
Men's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 3 urinals, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Women's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Custodial Room	E	10 x 10	100	adjacent to Restrooms		1	100	
Telecommunication/IT Room	E	10 x 14	140			1	140	
Mechanical Room	E		*			1	400	
Electrical Room	E		*			1	100	
Subtotal							14,455	
Circulation					35%		5,059	
OPERATIONS TOTALS					343		19,514	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option A**

Denotes- space may be on upper level

April 28, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

MAINTENANCE								
Office Spaces								
Maintenance Superintendent	E	12 x 16	192		1	1	192	
Maintenance Planner / Clerk	O	8 x 8	64		2	2	128	
Visitor Workstation		6 x 6	36			1	36	
File Storage	O		*			1	100	
Copy / Work Area	O	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Maintenance Supervisors	E	12 x 18	216	shared office	6	1	216	
Consultation Room	O	10 x 10	100			1	100	
Maintenance Foremen	O	5 x 10	50	on Shop Floor. One Foreman per shift - share same space. One for Running Repair + 1 for PM + 1 for Body	6	3	150	
Timeclock	O		60	On Shop Floor, Near Supervisors		1	60	
Ref. Library / Learning Lab	E	12 x 14	168			1	168	
A/V Storage	E	8 x 8	64			1	64	
Unisex Toilet	E	8 x 8	64			1	64	
Shop Spaces								
Running Repair Bays								
				fall protection in every bay.		10 total		5 total
Standard Buses	O	20 x 55	1,100	in-ground lift. Two bays with bridge cranes.		8	8,800	3 3,300
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		2	3,000	2 3,000
				fall protection in every bay		4 total		3 total
Standard Buses	O	20 x 55	1,100	in-ground lift		3	3,300	2 2,200
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		1	1,500	1 1,500
HR & O Repair Bays								
				fall protection in every bay		8 total		
Standard Buses	O	20 x 55	1,100	in-ground lift		5	5,500	
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		3	4,500	
Component Repair Shops								
Metal Shop	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Tire / Brake Bay								
				bridge crane; adjacent to Repair Bays		1	2,000	
						4 total		
Standard Buses	O	20 x 55	1,100	in-ground lift		2	2,200	
Articulated Buses	O	20 x 75	1,500	in-ground lift. Fall protection.		2	3,000	
Tire Shop	O		200	adjacent to Tire Bay.		1	200	
Tire Storage	O		*	adjacent to Tire Bay.		1	1,000	
						2 total		
A/C Bays								
Standard Buses	E	20 x 55	1,100	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,100	
Articulated Buses	E	20 x 75	1,500	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,500	
NRV Bays								
Light Vehicle Repair Bays	E	20 x 35	700	Above ground, 2-post, 18K pound lift		4	2,800	
Common Work Area	A		*	bridge crane; adjacent to Repair Bays		1	1,000	
Battery Room	E		200	may be in pre-fab building				
Tool Crib	E		*			1	2,000	
Tool Box Storage	E		*	One per shift		3	1,800	
Equipment Storage	O		*	near Maintenance Bays		2	1,100	
Support Spaces								
				To be combined/shared with Operations				
Maintenance Lunchroom	E		*	25 people at one time	65	1	625	
Vending / Kitchenette	A		200	adjacent to Maintenance Lunchroom		1	200	
Laundry Service Lockers	A		300	adjacent to Restrooms		1	300	
Men's RR / Shower / Lockers	E		*	2 toilets, 2 urinals, 3 lavs, 2 showers, 105 full lockers, vestibule		1	1,250	
Women's RR / Sh / Lockers	E		*	2 toilets, 1 lav, 1 shower, 30 lockers, vestibule		1	600	
Custodial Room	E		100	adjacent to Restrooms		2	200	
Lube / Compressor Room	E	25 x 45	1,125	EO (1,000), ATF (500), Mixed EC (650), GO (55), WWS (55), CG (55)		1	1,125	
Unisex Toilet	E	8 x 8	64			2	128	
Utility Entry Room	E	6 x 6	36			1	36	
Telecommunication/IT Room	E	10 x 10	100			1	100	
Mechanical Room	E		*			1	600	
Electrical Room	E		*			1	400	

Subtotal							55,292	10,000
Circulation		35%					19,352	3,500
MAINTENANCE TOTALS					80		74,644	13,500

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option A**

Denotes- space may be on upper level

April 28, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

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160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space
BODY REPAIR & PAINT								
Body Repair Bays								
Standard Buses	E	20 x 55	1,100			4	total	
60-foot Articulated Buses	E	20 x 80	1,600			2	2,200	
Body Shop	O		800			2	3,200	
adjacent to Body Repair Bays								
Paint Booth Bays								
Standard Buses	E	30 x 60	1,800			1	800	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Articulated Buses	E	30 x 80	2,400			2	4,800	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Vacuum Equipment	E	10 x 25	250			1	250	
Adj. to Body Repair Bays.								
Paint Mix / Storage	E		250			1	250	
Adj. to Paint Booth								
Subtotal							11,500	
Circulation					20%		2,300	
BODY REPAIR & PAINT TOTALS							13,800	

PARTS STORES								
Parts Office	O	12 x 12	144		1	1	144	
Parts Counter	O		100		3	1	100	
Shipping & Receiving	O		500			1	500	
within Parts Storage. At grade dock.								
Terminal Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
HR & O Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
Upholstery Storage	O		750			1	750	
incorporate in Parts Storage. Storage only.								
Non-hazardous Storage	E		200			1	200	
12 pallets total (2 high) in prefab containment building. Incl salt / sand.								
Hazardous Materials Storage	E		200			1	200	
2 drums in prefab containment building								
Subtotal							9,894	
Circulation					10%		989	
PARTS STORES TOTALS					4		10,883	

FUEL / WASH / SERVICE								
Office	E	12 x 12	144		17	1	144	
shared office								
Staff Car Gasoline Fueling Pos.	C	18 x 35	630			1	630	
Diesel Fueling Position	E	20 x 75	1,500			5	7,500	
including fueling, vacuum, fluid top off								
Lube / Compressor Room	E		1,000			1	1,000	
EO (280), ATF (280), Mixed EC (500), WWS (55)								
Wash								
Automatic Bus Washer	E	20 x 80	1,600			3	4,800	
drive-thru; In line with Service Lane								
Water Reclaim	E		1,000			1	1,000	
Chassis Wash Bay	E	20 x 80	1,600			1	1,600	
parallelogram Lift								
Chassis Wash Equipment	E		100			1	100	
adjacent to Chassis Wash Bay								
Bus Detail Lane	C							
in Bus Parking.								
Cleaning Storage Room	E		*			2	240	
storage of detail cleaning crew items								
Men's Restroom	E	8 x 8	64			1	64	
Women's Restroom	E	8 x 8	64			1	64	
Custodial Room	E	6 x 6	36			1	36	
adjacent to Restrooms								
Tank Farm - Vault	X							
pipe to existing tanks								
Diesel								
existing tanks to be re-used								
Gasoline								
existing tanks to be re-used								
DEF						1		
one 5,000 gallon AST. Locate in vault.								
Subtotal							17,178	
Circulation					20%		3,436	
FUEL / WASH / SERVICE TOTALS					17		20,614	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option A**

Denotes- space may be on upper level

April 28, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses	160
60-foot Articulated Buses	40
Total Agency Vehicles	200

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Phase 1 Proposed		Phase 3 Proposed	
	dims	sf			Qty	Space	Qty	Space

INDOOR AGENCY VEHICLE PARKING

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed		
		dims			Qty	Space		
Bus Parking								
40-foot Buses	X	12 x 40	480	add 3 feet between buses (nose to tail). Assume Maintenance Bays will be occupied	138	66,240	75	36,000
60-foot Articulated Buses	X	12 x 60	720	add 3 feet between buses (nose to tail). Assume Maintenance Bays will be occupied	29	20,880	17	12,240
Down Line								
40-foot Buses	X	12 x 40	480	near Maintenance.				
60-foot Articulated Buses	X	12 x 60	720	included within bus parking.				
Support Vehicles								
Operations	X	10 x 20	200	for Supervisors	8	1,600		
Maintenance	X	10 x 20	200	2 pick-up trucks, 1 service truck, 1 tug, 1 yard sweeper, 2 V-boxes, 2 plows	9	1,800		
Maintenance	X	12 x 40	480	1 tow truck	1	480		
Subtotal						91,000		48,240
Circulation					20%			18,200
INDOOR AGENCY VEHICLE PARKING TOTALS						109,200		57,888

FARE BOX BUILDING

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed		
		dims			Qty	Space		
Fare pull	E	25 x 80	2,000		1	2,000		
Subtotal						2,000		
Circulation					25%			500
FARE BOX BUILDING TOTALS					1	2,500		

PLANT MAINTENANCE

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed		
		dims			Qty	Space		
Plant Office	E	12 x 12	144		1	144		
Plant Shop	E	50 x 100	5,000		1	5,000		
Subtotal						5,144		
Circulation					25%			1,286
PLANT MAINTENANCE TOTALS					2	6,430		

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option A**

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April 28, 2017

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[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks
	dims	sf	

Staffing

Proposed	
Qty	Space

Proposed	
Qty	Space

PERSONAL VEHICLE PARKING

Employee Parking				
Operations	X	10 x 20	200	+ H/C spaces per code
Maintenance	X	10 x 20	200	+ H/C spaces per code
Fuel / Wash / Service	X	10 x 20	200	+ H/C spaces per code
Visitor Parking	X	10 x 20	200	+ H/C spaces per code. Near building entry and within employee parking.
Motorcycle	X	5 x 10	50	
Bicycle Parking	C		200	bike racks, canopy covered
Subtotal				
Circulation		60%		
PERSONAL VEHICLE PARKING TOTALS				

215	43,000
45	9,000
5	1,000
4	200
1	200
270	53,400
	32,040
	85,440

120	24,000
20	4,000
140	28,000
	16,800
	44,800

OTHER SITE AREAS

Emergency Generator	E		800	100% of facility (except bus washers). Diesel.
Dumpsters / Recycling				
Trash	X	12 x 30	360	
Recycle (Metal / Scrap)	X	12 x 30	360	
Recycle (Wood / Plastic / Paper)	X	12 x 30	360	
Snow Storage Area	X		5,000	
Subtotal				
Circulation		100%		
OTHER SITE AREAS TOTALS				

1	800
1	360
1	360
1	360
1	5,000
	6,880
	6,880
	13,760

Option B

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option B
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option		GFA	PHASE 1	PHASE 3	COST/SF
EXECUTIVE SUMMARY - OPTION B					
New Operations & Maintenance Facility	Phase 1	92,452	\$17,565,880		\$190.00
	Phase 3	14,985		\$3,071,925	\$205.00
Maintenance Building equipment	Phase 1		\$8,273,061		
	Phase 3			\$1,764,860	
Body Repair & Paint	Phase 1	13,800	\$2,622,000		\$190.00
Parts storage	Phase 1	10,883	\$2,067,770		\$190.00
Fuel/Wash/Service	Phase 1	20,614	\$4,947,360		\$240.00
Indoor Agency vehicle parking	Phase 1	108,972	\$13,621,500		\$125.00
	Phase 3	82,944		\$10,782,720	\$130.00
Fare box Building		2,500	\$650,000		\$260.00
Plant Maintenance		6,430	\$1,221,700		\$190.00
Personal Vehicle parking	Phase 1	79,040	\$1,976,000		\$25.00
Personal Vehicle parking	Phase 3	51,200		\$1,408,000	\$27.50
Other Site Areas		13,760	\$206,400		\$15.00
	Sub-total	497,580	\$53,151,671	\$17,027,505	\$141.04
Design, Program and Pricing Contingency	10.0%		\$5,315,167	\$1,702,751	\$14.10
	Design Contingency sub-total		\$5,315,167	\$1,702,751	\$14.10
	Scope of work subject to Markups (Trade Costs)		\$58,466,838	\$18,730,256	\$155.15
Markups					
2	General Conditions;	4.5%	\$2,631,008	\$842,861	\$6.98
3	General requirements	5.5%	\$3,215,676	\$1,030,164	\$8.53
4	Performance & payment bonds	1.00%	\$643,135	\$206,033	\$1.71
5	Builders Risk	0.70%	\$450,195	\$144,223	\$1.19
6	Owner-Controlled Insurance Policy (OCIP)	1.20%	\$771,762	\$247,239	\$2.05
7	Permit	0.50%	\$321,568	\$103,016	\$0.85
8	Fee - (based on 1 through 3)	2.75%	\$1,768,622	\$566,590	\$4.69
9	Preconstruction services	1	\$150,000	\$90,000	\$0.48
	Sub-total		\$9,951,965	\$3,230,127	\$26.49
*	CM's Contingency (2.5% of 1 through 3)	2.5%	\$1,607,838	\$515,082	\$4.27
	Estimated GMP 2nd Qtr 2017		\$70,026,642	\$22,475,465	\$185.90

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option B
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option	GFA	PHASE 1	PHASE 3	COST/SF
DDOT Soft Costs				
1 A/E fees including CA (10% on Phase 1, 11% on Phase 2)		\$7,002,664	\$2,472,301	
2 R. E / Field Engineering	3%	\$2,100,799	\$674,264	
3 Printing/Advertising		\$50,000	\$50,000	
4 Legal		\$90,000	\$70,000	
5 Commissioning, Testing & inspection		\$350,000	\$250,000	
6 IT		\$300,000	\$100,000	
7 F,F and E,		\$175,000	\$75,000	
8 Site Surveys		\$80,000	\$30,000	
9 Environmental		\$175,000	\$75,000	
10 Funding Applications		\$125,000		
11 Peer Reviews		\$115,000	\$35,000	
		Soft Costs Total	\$10,563,463	\$3,831,565
18 Owner Contingency (allowance - to be set by DDOT)	7.50%	\$6,044,258	\$1,973,027	
TOTAL PROJECT COST, CURRENT		\$86,634,363	\$28,280,057	
Escalation to 2nd Qtr 2019 start of construction	2.25%	\$1,949,273		
PHASE 1 TOTAL PROJECT COST, 2ND QTR 2018		\$88,583,636		
Escalation to 2nd Qtr 2024 start of construction	18.58%		\$5,254,053	
PHASE 3 TOTAL PROJECT COST, 2ND QTR 2024			\$33,534,111	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option B
PRELIMINARY SPACE NEEDS PROGRAM**

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April 28, 2017

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[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
144	
36	
180	

Phase 3	
96	
24	
120	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

OPERATIONS								
Administration								
Superintendent	E	12 x 18	216	include small conference table	1	1	216	
Assistant Superintendent	E	12 x 16	192		1	1	192	
Operations Supervisor	E	10 x 12	120		2	2	240	
Street Supervisors	E			adjacent to Operator's Lounge	6			
Meeting Area	O	15 x 24	360	to accommodate up to 15 people		1	360	
Workstations	O	6 x 6	36			6	216	
Counseling / Small Conf.	E	10 x 10	100			1	100	
Lost & Found	E	6 x 8	48			1	48	
Lobby / Waiting Area	O	10 x 15	150	seating for 4 people, bulletin boards, displays. At entrance to building.		1	150	
Waiting / Reception	O	10 x 12	120	seating for 4 people, adj. to Administration suite		1	120	
Unisex Restroom	E	8 x 8	64			1	64	
Copy / Work Room	E	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Recycling Area	A			within Copy / Work Room				
Training								
Training Room	E	20 x 30	600	20 people in each with divider between		2	1,200	
Training Office	E	12 x 20	240	adjacent to Training Room, with 2 desks	2	1	240	
A/V Storage	E	10 x 10	100	adjacent to Training Room		1	100	
Central Dispatch Suite								
Open Area	O	30 x 50	1,500		1	1	1,500	
Depot Office								
Depot Clerk	O	8 x 8	64	adjacent to Dispatch Counter	2	2	128	
Book Person	O	8 x 8	64		1	1	64	
Dispatcher	O	8 x 8	64		1	1	64	
Break Area	E	10 x 15	150	tables and chairs		1	150	
Unisex Restroom	E	8 x 8	64			1	64	
Driver Check-In Area	A	14 x 15	210			1	210	
Storage	E		175	schedules / records / transfers		1	175	
Driver Areas								
Operator's Lounge	E		*	To be shared/combined with vehicle maintenance tables / chairs, TV. 50 drivers at one time.	325	1	2,000	
Wellness Center	E		*	weights, treadmills, floor space for fitness activities		1	750	
Quiet Room	E	10 x 20	200			1	200	
Recreation Room	A		*	pool table, darts, etc, alcove off Lounge.		1	750	
Lunchroom	A		*	tables / chairs, TV. Open to Lounge.		1	1,000	
Vending / Kitchenette	A	10 x 20	200	Vending, refrig, microwave, sink		1	200	
Men's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 3 urinals, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Women's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Custodial Room	E	10 x 10	100	adjacent to Restrooms		1	100	
Telecommunication/IT Room	E	10 x 14	140			1	140	
Mechanical Room	E		*			1	400	
Electrical Room	E		*			1	100	
Subtotal							14,391	
Circulation					35%		5,037	
OPERATIONS TOTALS					342		19,428	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option B**

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April 28, 2017

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
144	
36	
180	

Phase 3	
96	
24	
120	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

MAINTENANCE								
Office Spaces								
Maintenance Superintendent	E	12 x 16	192		1	1	192	
Maintenance Planner / Clerk	O	8 x 8	64		2	2	128	
Visitor Workstation		6 x 6	36			1	36	
File Storage	O		*			1	100	
Copy / Work Area	O	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Maintenance Supervisors	E	12 x 18	216	shared office	6	1	216	
Consultation Room	O	10 x 10	100			1	100	
Maintenance Foremen	O	5 x 10	50	on Shop Floor. One Foreman per shift - share same space. One for Running Repair + 1 for PM + 1 for Body	6	3	150	
Timeclock	O		60	On Shop Floor, Near Supervisors		1	60	
Ref. Library / Learning Lab	E	12 x 14	168			1	168	
A/V Storage	E	8 x 8	64			1	64	
Unisex Toilet	E	8 x 8	64			1	64	
Shop Spaces								
Running Repair Bays								
				fall protection in every bay.		<i>9 total</i>		<i>6 total</i>
Standard Buses	O	20 x 55	1,100	in-ground lift. Two bays with bridge cranes.		7	7,700	4 4,400
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		2	3,000	2 3,000
				fall protection in every bay		<i>4 total</i>		<i>3 total</i>
Standard Buses	O	20 x 55	1,100	in-ground lift		3	3,300	2 2,200
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		1	1,500	1 1,500
HR & O Repair Bays								
				fall protection in every bay		<i>8 total</i>		
Standard Buses	O	20 x 55	1,100	in-ground lift		5	5,500	
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		3	4,500	
Component Repair Shops	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Metal Shop	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Tire / Brake Bay								
						<i>4 total</i>		
Standard Buses	O	20 x 55	1,100	in-ground lift		2	2,200	
Articulated Buses	O	20 x 75	1,500	in-ground lift. Fall protection.		2	3,000	
Tire Shop	O		200	adjacent to Tire Bay.		1	200	
Tire Storage	O		*	adjacent to Tire Bay.		1	900	
A/C Bays								
						<i>2 total</i>		
Standard Buses	E	20 x 55	1,100	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,100	
Articulated Buses	E	20 x 75	1,500	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,500	
NRV Bays								
Light Vehicle Repair Bays	E	20 x 35	700	Above ground, 2-post, 18K pound lift		4	2,800	
Common Work Area	A		*	bridge crane; adjacent to Repair Bays		1	1,000	
Battery Room	E		200	may be in pre-fab building				
Tool Crib	E		*			1	2,000	
Tool Box Storage	E		*	One per shift		3	1,800	
Equipment Storage	O		*	near Maintenance Bays		2	1,100	
Support Spaces								
				To be combined/shared with Operations				
Maintenance Lunchroom	E		*	25 people at one time	65	1	625	
Vending / Kitchenette	A		200	adjacent to Maintenance Lunchroom		1	200	
Laundry Service Lockers	A		300	adjacent to Restrooms		1	300	
Men's RR / Shower / Lockers	E		*	2 toilets, 2 urinals, 3 lavs, 2 showers, 105 full lockers, vestibule		1	1,250	
Women's RR / Sh / Lockers	E		*	2 toilets, 1 lav, 1 shower, 30 lockers, vestibule		1	600	
Custodial Room	E		100	adjacent to Restrooms		2	200	
Lube / Compressor Room	E	25 x 45	1,125	EO (1,000), ATF (500), Mixed EC (650), GO (55), WWS (55), CG (55)		1	1,125	
Unisex Toilet	E	8 x 8	64			2	128	
Utility Entry Room	E	6 x 6	36			1	36	
Telecommunication/IT Room	E	10 x 10	100			1	100	
Mechanical Room	E		*			1	600	
Electrical Room	E		*			1	400	

Subtotal						54,092	11,100
Circulation 35%						18,932	3,885
MAINTENANCE TOTALS					80	73,024	14,985

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option B**

Denotes- space may be on upper level

April 28, 2017

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
144	
36	
180	

Phase 3	
96	
24	
120	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space
BODY REPAIR & PAINT								
Body Repair Bays								
Standard Buses	E	20 x 55	1,100			4	<i>total</i>	
60-foot Articulated Buses	E	20 x 80	1,600			2	2,200	
Body Shop	O		800			2	3,200	
adjacent to Body Repair Bays								
Paint Booth Bays						1	800	
Paint Booth Bays								
Standard Buses	E	30 x 60	1,800			2	<i>total</i>	
				in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.				
Articulated Buses	E	30 x 80	2,400			2	4,800	
				in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.				
Vacuum Equipment	E	10 x 25	250			1	250	
				Adj. to Body Repair Bays.				
Paint Mix / Storage	E		250			1	250	
				Adj. to Paint Booth				
Subtotal							11,500	
Circulation						20%	2,300	
BODY REPAIR & PAINT TOTALS							13,800	

PARTS STORES								
Parts Office	O	12 x 12	144		1	1	144	
Parts Counter	O		100		3	1	100	
Shipping & Receiving	O		500			1	500	
				within Parts Storage. At grade dock.				
Terminal Parts Storage	E					1	4,000	
				footprint sized for just-in-time deliveries				
HR & O Parts Storage	E					1	4,000	
				footprint sized for just-in-time deliveries				
Upholstery Storage	O		750			1	750	
				incorporate in Parts Storage. Storage only.				
Non-hazardous Storage	E		200			1	200	
				12 pallets total (2 high) in prefab containment building. Incl salt / sand.				
Hazardous Materials Storage	E		200			1	200	
				2 drums in prefab containment building				
Subtotal							9,894	
Circulation						10%	989	
PARTS STORES TOTALS						4	10,883	

FUEL / WASH / SERVICE								
Office	E	12 x 12	144		17	1	144	
				shared office				
Staff Car Gasoline Fueling Pos.	C	18 x 35	630			1	630	
Diesel Fueling Position	E	20 x 75	1,500			5	7,500	
				including fueling, vacuum, fluid top off				
Lube / Compressor Room	E		1,000			1	1,000	
				EO (280), ATF (280), Mixed EC (500), WWS (55)				
Wash								
Automatic Bus Washer	E	20 x 80	1,600			3	4,800	
				drive-thru; In line with Service Lane				
Water Reclaim	E		1,000			1	1,000	
Chassis Wash Bay	E	20 x 80	1,600			1	1,600	
				parallelogram Lift				
Chassis Wash Equipment	E		100			1	100	
				adjacent to Chassis Wash Bay				
Bus Detail Lane	C							
				in Bus Parking.				
Cleaning Storage Room	E		*			2	240	
				storage of detail cleaning crew items				
Men's Restroom	E	8 x 8	64			1	64	
Women's Restroom	E	8 x 8	64			1	64	
Custodial Room	E	6 x 6	36			1	36	
				adjacent to Restrooms				
Tank Farm - Vault	X							
				pipe to existing tanks				
Diesel								
				existing tanks to be re-used				
Gasoline								
				existing tanks to be re-used				
DEF						1		
				one 5,000 gallon AST. Locate in vault.				
Subtotal							17,178	
Circulation						20%	3,436	
FUEL / WASH / SERVICE TOTALS						17	20,614	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O- Option B
PRELIMINARY SPACE NEEDS PROGRAM**

Denotes- space may be on upper level

April 28, 2017

Detroit, MI
[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,
[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses	144
60-foot Articulated Buses	36
Total Agency Vehicles	180

Phase 1	
144	
36	
180	

Phase 3	
96	
24	
120	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

INDOOR AGENCY VEHICLE PARKING

Space Name		Space Standard	Remarks	Staffing	Proposed	Proposed	Proposed	Proposed
		dims			Qty	Space	Qty	Space
Bus Parking								
40-foot Buses	X	12 x 40	480	add 3 feet between buses (nose to tail). Assume Maintenance Bays will be occupied	123	59,040	95	45,600
60-foot Articulated Buses	X	12 x 60	720	add 3 feet between buses (nose to tail). Assume Maintenance Bays will be occupied	25	18,000	22	15,840
Down Line								
40-foot Buses	X	12 x 40	480	included within bus parking.				
60-foot Articulated Buses	X	12 x 60	720	included within bus parking.				
Support Vehicles								
Operations	X	10 x 20	200	for Supervisors	7	1,400		
Maintenance	X	10 x 20	200	2 pick-up trucks, 1 service truck, 1 tug, 1 yard sweeper, 2 V-boxes, 2 plows	9	1,800		
Maintenance	X	12 x 40	480	1 tow truck	1	480		
Subtotal						80,720		61,440
Circulation						28,252		21,504
INDOOR AGENCY VEHICLE PARKING TOTALS						108,972		82,944

FARE BOX BUILDING

Space Name		Space Standard	Remarks	Staffing	Proposed	Proposed	Proposed	Proposed
		dims			Qty	Space	Qty	Space
Fare pull	E	25 x 80	2,000		1	2,000		
Subtotal						2,000		
Circulation						500		
FARE BOX BUILDING TOTALS					1	2,500		

PLANT MAINTENANCE

Space Name		Space Standard	Remarks	Staffing	Proposed	Proposed	Proposed	Proposed
		dims			Qty	Space	Qty	Space
Plant Office	E	12 x 12	144		1	144		
Plant Shop	E	50 x 100	5,000		1	5,000		
Subtotal						5,144		
Circulation						1,286		
PLANT MAINTENANCE TOTALS					2	6,430		

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
144	
36	
180	

Phase 3	
96	
24	
120	

Space Name	Space Standard		Remarks
	dims	sf	

Staffing

Proposed	
Qty	Space

Proposed	
Qty	Space

PERSONAL VEHICLE PARKING

Employee Parking				
Operations	X	10 x 20	200	+ H/C spaces per code
Maintenance	X	10 x 20	200	+ H/C spaces per code
Fuel / Wash / Service	X	10 x 20	200	+ H/C spaces per code
Visitor Parking	X	10 x 20	200	+ H/C spaces per code. Near building entry and within employee parking.
Motorcycle	X	5 x 10	50	
Bicycle Parking	C		200	bike racks, canopy covered
Subtotal				
Circulation		60%		
PERSONAL VEHICLE PARKING TOTALS				

195	39,000
45	9,000
5	1,000
4	200
1	200
250	49,400
	29,640
	79,040

140	28,000
20	4,000
160	32,000
	19,200
	51,200

OTHER SITE AREAS

Emergency Generator	E		800	100% of facility (except bus washers). Diesel.
Dumpsters / Recycling				
Trash	X	12 x 30	360	
Recycle (Metal / Scrap)	X	12 x 30	360	
Recycle (Wood / Plastic / Paper)	X	12 x 30	360	
Snow Storage Area	X		5,000	
Subtotal				
Circulation		100%		
OTHER SITE AREAS TOTALS				

1	800
1	360
1	360
1	360
1	5,000
	6,880
	6,880
	13,760

Option C

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option C
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option		GFA	PHASE 1	PHASE 3	COST/SF
EXECUTIVE SUMMARY - OPTION C					
New Operations & Maintenance Facility	Phase 1	94,158	\$17,890,020		\$190.00
	Phase 3	13,500		\$2,767,500	\$205.00
Maintenance Building equipment	Phase 1		\$8,273,061		
	Phase 3			\$1,764,860	
Body Repair & Paint	Phase 1	13,800	\$2,622,000		\$190.00
Parts storage	Phase 1	10,883	\$2,067,770		\$190.00
Fuel/Wash/Service	Phase 1	20,614	\$4,947,360		\$240.00
Agency vehicle parking (partially enclosed canopy)	Phase 1	147,798	\$13,301,820		\$90.00
	Phase 3	71,280		\$6,771,600	\$95.00
Fare box Building		2,500	\$650,000		\$260.00
Plant Maintenance		6,430	\$1,221,700		\$190.00
Personal Vehicle parking	Phase 1	85,440	\$2,136,000		\$25.00
Personal Vehicle parking	Phase 3	44,800		\$1,232,000	\$27.50
Other Site Areas		13,760	\$206,400		\$15.00
	Sub-total	524,963	\$53,316,131	\$12,535,960	\$125.44
Design, Program and Pricing Contingency	10.0%		\$5,331,613	\$1,253,596	\$12.54
	Design Contingency sub-total		\$5,331,613	\$1,253,596	\$12.54
	Scope of work subject to Markups (Trade Costs)		\$58,647,744	\$13,789,556	\$137.99
Markups					
2	General Conditions;	4.5%	\$2,639,148	\$620,530	\$6.21
3	General requirements	5.5%	\$3,225,626	\$758,426	\$7.59
4	Performance & payment bonds	1.00%	\$645,125	\$151,685	\$1.52
5	Builders Risk	0.70%	\$451,588	\$106,180	\$1.06
6	Owner-Controlled Insurance Policy (OCIP)	1.20%	\$774,150	\$182,022	\$1.82
7	Permit	0.50%	\$322,563	\$75,843	\$0.76
8	Fee - (based on 1 through 3)	2.75%	\$1,774,094	\$417,134	\$4.17
9	Preconstruction services	1	\$150,000	\$90,000	\$0.46
	Sub-total		\$9,982,294	\$2,401,819	\$23.59
*	CM's Contingency (2.5% of 1 through 3)	2.5%	\$1,612,813	\$379,213	\$3.79
	Estimated GMP 2nd Qtr 2017		\$70,242,851	\$16,570,588	\$165.37

DDOT-Coolidge Replacement
 Bus Terminal and HR&O - Option C
 Preliminary Space Needs Program - Concept Design Estimate
 April 27, 2017



Design Option	GFA	PHASE 1	PHASE 3	COST/SF
DDOT Soft Costs				
1 A/E fees including CA (10% on Phase 1, 11% on Phase 2)		\$7,024,285	\$1,822,765	
2 R. E / Field Engineering	3%	\$2,107,286	\$497,118	
3 Printing/Advertising		\$50,000	\$50,000	
4 Legal		\$90,000	\$70,000	
5 Commissioning, Testing & inspection		\$350,000	\$250,000	
6 IT		\$300,000	\$100,000	
7 F,F and E,		\$175,000	\$75,000	
8 Site Surveys		\$80,000	\$30,000	
9 Environmental		\$175,000	\$75,000	
10 Funding Applications		\$125,000		
11 Peer Reviews		\$115,000	\$35,000	
		Soft Costs Total	\$10,591,571	\$3,004,882
18 Owner Contingency (allowance - to be set by DDOT)	7.50%	\$6,062,582	\$1,468,160	
TOTAL PROJECT COST, CURRENT		\$86,897,004	\$21,043,630	
Escalation to 2nd Qtr 2019 start of construction	2.25%	\$1,955,183		
PHASE 1 TOTAL PROJECT COST, 2ND QTR 2018		\$88,852,186		
Escalation to 2nd Qtr 2024 start of construction	18.58%		\$3,909,623	
PHASE 3 TOTAL PROJECT COST, 2ND QTR 2024			\$24,953,253	

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

OPERATIONS								
Administration								
Superintendent	E	12 x 18	216	include small conference table	1	1	216	
Assistant Superintendent	E	12 x 16	192		1	1	192	
Operations Supervisor	E	10 x 12	120		2	2	240	
Street Supervisors	E			adjacent to Operator's Lounge	6			
Meeting Area	O	15 x 24	360	to accommodate up to 15 people		1	360	
Workstations	O	6 x 6	36			6	216	
Counseling / Small Conf.	E	10 x 10	100			1	100	
Lost & Found	E	6 x 8	48			1	48	
Lobby / Waiting Area	O	10 x 15	150	seating for 4 people, bulletin boards, displays. At entrance to building.		1	150	
Waiting / Reception	O	10 x 12	120	seating for 4 people, adj. to Administration suite		1	120	
Unisex Restroom	E	8 x 8	64			1	64	
Copy / Work Room	E	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Recycling Area	A			within Copy / Work Room				
Training								
Training Room	E	20 x 30	600	20 people in each with divider between		2	1,200	
Training Office	E	12 x 20	240	adjacent to Training Room, with 2 desks	2	1	240	
A/V Storage	E	10 x 10	100	adjacent to Training Room		1	100	
Central Dispatch Suite								
Open Area	O	30 x 50	1,500		1	1	1,500	
Depot Office								
Depot Clerk	O	8 x 8	64	adjacent to Dispatch Counter	3	3	192	
Book Person	O	8 x 8	64		1	1	64	
Dispatcher	O	8 x 8	64		1	1	64	
Break Area	E	10 x 15	150	tables and chairs		1	150	
Unisex Restroom	E	8 x 8	64			1	64	
Driver Check-In Area	A	14 x 15	210			1	210	
Storage	E		175	schedules / records / transfers		1	175	
Driver Areas								
Operator's Lounge	E		*	To be shared/combined with vehicle maintenance tables / chairs, TV. 50 drivers at one time.	325	1	2,000	
Wellness Center	E		*	weights, treadmills, floor space for fitness activities		1	750	
Quiet Room	E	10 x 20	200			1	200	
Recreation Room	A		*	pool table, darts, etc, alcove off Lounge.		1	750	
Lunchroom	A		*	tables / chairs, TV. Open to Lounge.		1	1,000	
Vending / Kitchenette	A	10 x 20	200	Vending, refrig, microwave, sink		1	200	
Men's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 3 urinals, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Women's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Custodial Room	E	10 x 10	100	adjacent to Restrooms		1	100	
Telecommunication/IT Room	E	10 x 14	140			1	140	
Mechanical Room	E		*			1	400	
Electrical Room	E		*			1	100	
Subtotal							14,455	
Circulation					35%		5,059	
OPERATIONS TOTALS					343		19,514	

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40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

MAINTENANCE								
Office Spaces								
Maintenance Superintendent	E	12 x 16	192		1	1	192	
Maintenance Planner / Clerk	O	8 x 8	64		2	2	128	
Visitor Workstation		6 x 6	36			1	36	
File Storage	O		*			1	100	
Copy / Work Area	O	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Maintenance Supervisors	E	12 x 18	216	shared office	6	1	216	
Consultation Room	O	10 x 10	100			1	100	
Maintenance Foremen	O	5 x 10	50	on Shop Floor. One Foreman per shift - share same space. One for Running Repair + 1 for PM + 1 for Body	6	3	150	
Timeclock	O		60	On Shop Floor, Near Supervisors		1	60	
Ref. Library / Learning Lab	E	12 x 14	168			1	168	
A/V Storage	E	8 x 8	64			1	64	
Unisex Toilet	E	8 x 8	64			1	64	
Shop Spaces								
Running Repair Bays				fall protection in every bay.		10 total		5 total
Standard Buses	O	20 x 55	1,100	in-ground lift. Two bays with bridge cranes.		8	8,800	3 3,300
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		2	3,000	2 3,000
Preventive Maintenance Bays				fall protection in every bay		4 total		3 total
Standard Buses	O	20 x 55	1,100	in-ground lift		3	3,300	2 2,200
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		1	1,500	1 1,500
HR & O Repair Bays				fall protection in every bay		8 total		
Standard Buses	O	20 x 55	1,100	in-ground lift		5	5,500	
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		3	4,500	
Component Repair Shops	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Metal Shop	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Tire / Brake Bay						4 total		
Standard Buses	O	20 x 55	1,100	in-ground lift		2	2,200	
Articulated Buses	O	20 x 75	1,500	in-ground lift. Fall protection.		2	3,000	
Tire Shop	O		200	adjacent to Tire Bay.		1	200	
Tire Storage	O		*	adjacent to Tire Bay.		1	1,000	
A/C Bays						2 total		
Standard Buses	E	20 x 55	1,100	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,100	
Articulated Buses	E	20 x 75	1,500	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,500	
NRV Bays								
Light Vehicle Repair Bays	E	20 x 35	700	Above ground, 2-post, 18K pound lift		4	2,800	
Common Work Area	A		*	bridge crane; adjacent to Repair Bays		1	1,000	
Battery Room	E		200	may be in pre-fab building				
Tool Crib	E		*			1	2,000	
Tool Box Storage	E		*	One per shift		3	1,800	
Equipment Storage	O		*	near Maintenance Bays		2	1,100	
Support Spaces								
Maintenance Lunchroom	E		*	25 people at one time	65	1	625	
Vending / Kitchenette	A		200	adjacent to Maintenance Lunchroom		1	200	
Laundry Service Lockers	A		300	adjacent to Restrooms		1	300	
Men's RR / Shower / Lockers	E		*	2 toilets, 2 urinals, 3 lavs, 2 showers, 105 full lockers, vestibule		1	1,250	
Women's RR / Sh / Lockers	E		*	2 toilets, 1 lav, 1 shower, 30 lockers, vestibule		1	600	
Custodial Room	E		100	adjacent to Restrooms		2	200	
Lube / Compressor Room	E	25 x 45	1,125	EO (1,000), ATF (500), Mixed EC (650), GO (55), WWS (55), CG (55)		1	1,125	
Unisex Toilet	E	8 x 8	64			2	128	
Utility Entry Room	E	6 x 6	36			1	36	
Telecommunication/IT Room	E	10 x 10	100			1	100	
Mechanical Room	E		*			1	600	
Electrical Room	E		*			1	400	

Subtotal							55,292	10,000
Circulation	35%						19,352	3,500
MAINTENANCE TOTALS					80		74,644	13,500

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60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space
BODY REPAIR & PAINT								
Body Repair Bays								
Standard Buses	E	20 x 55	1,100			4	<i>total</i>	
60-foot Articulated Buses	E	20 x 80	1,600			2	2,200	
Body Shop	O		800			2	3,200	
adjacent to Body Repair Bays								
Body Shop	O		800			1	800	
Paint Booth Bays								
Standard Buses	E	30 x 60	1,800			2	<i>total</i>	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Articulated Buses	E	30 x 80	2,400			2	4,800	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Vacuum Equipment	E	10 x 25	250			1	250	
Adj. to Body Repair Bays.								
Paint Mix / Storage	E		250			1	250	
Adj. to Paint Booth								
Subtotal							11,500	
Circulation					20%		2,300	
BODY REPAIR & PAINT TOTALS							13,800	

PARTS STORES								
Parts Office	O	12 x 12	144		1	1	144	
Parts Counter	O		100		3	1	100	
Shipping & Receiving	O		500			1	500	
within Parts Storage. At grade dock.								
Terminal Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
HR & O Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
Upholstery Storage	O		750			1	750	
incorporate in Parts Storage. Storage only.								
Non-hazardous Storage	E		200			1	200	
12 pallets total (2 high) in prefab containment building. Incl salt / sand.								
Hazardous Materials Storage	E		200			1	200	
2 drums in prefab containment building								
Subtotal							9,894	
Circulation					10%		989	
PARTS STORES TOTALS					4		10,883	

FUEL / WASH / SERVICE								
Office	E	12 x 12	144		17	1	144	
shared office								
Staff Car Gasoline Fueling Pos.	C	18 x 35	630			1	630	
Diesel Fueling Position	E	20 x 75	1,500			5	7,500	
including fueling, vacuum, fluid top off								
Lube / Compressor Room	E		1,000			1	1,000	
EO (280), ATF (280), Mixed EC (500), WWS (55)								
Wash								
Automatic Bus Washer	E	20 x 80	1,600			3	4,800	
drive-thru; In line with Service Lane								
Water Reclaim	E		1,000			1	1,000	
Chassis Wash Bay	E	20 x 80	1,600			1	1,600	
parallelogram Lift								
Chassis Wash Equipment	E		100			1	100	
adjacent to Chassis Wash Bay								
Bus Detail Lane	C							
in Bus Parking.								
Cleaning Storage Room	E		*			2	240	
storage of detail cleaning crew items								
Men's Restroom	E	8 x 8	64			1	64	
Women's Restroom	E	8 x 8	64			1	64	
Custodial Room	E	6 x 6	36			1	36	
adjacent to Restrooms								
Tank Farm - Vault	X							
pipe to existing tanks								
Diesel								
existing tanks to be re-used								
Gasoline								
existing tanks to be re-used								
DEF						1		
one 5,000 gallon AST. Locate in vault.								
Subtotal							17,178	
Circulation					20%		3,436	
FUEL / WASH / SERVICE TOTALS					17		20,614	

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Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Phase 1 Proposed		Phase 3 Proposed	
	dims	sf			Qty	Space	Qty	Space

CANOPY AGENCY VEHICLE PARKING

Space Name									
Bus Parking									
40-foot Buses	X	12 x 40	480	add 3 feet between buses (nose to tail).		160	76,800	80	38,400
60-foot Articulated Buses	X	12 x 60	720	add 3 feet between buses (nose to tail).		40	28,800	20	14,400
Down Line				near Maintenance.					
40-foot Buses	X	12 x 40	480	included within bus parking.					
60-foot Articulated Buses	X	12 x 60	720	included within bus parking.					
Support Vehicles									
Operations	X	10 x 20	200	for Supervisors		8	1,600		
Maintenance	X	10 x 20	200	2 pick-up trucks, 1 service truck, 1 tug, 1 yard sweeper, 2 V-boxes, 2 plows		9	1,800		
Maintenance	X	12 x 40	480	1 tow truck		1	480		
Subtotal							109,480		52,800
Circulation			35%	assumes stack parking.			38,318		18,480
CANOPY AGENCY VEHICLE PARKING TOTALS							147,798		71,280

FARE BOX BUILDING

Fare pull	E	25 x 80	2,000		1	1	2,000		
Subtotal							2,000		
Circulation			25%				500		
FARE BOX BUILDING TOTALS					1		2,500		

PLANT MAINTENANCE

Plant Office	E	12 x 12	144		1	1	144		
Plant Shop	E	50 x 100	5,000		1	1	5,000		
Subtotal							5,144		
Circulation			25%				1,286		
PLANT MAINTENANCE TOTALS					2		6,430		

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Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks
	dims	sf	

Staffing

Proposed	
Qty	Space

Proposed	
Qty	Space

PERSONAL VEHICLE PARKING

Employee Parking				
Operations	X	10 x 20	200	+ H/C spaces per code
Maintenance	X	10 x 20	200	+ H/C spaces per code
Fuel / Wash / Service	X	10 x 20	200	+ H/C spaces per code
Visitor Parking	X	10 x 20	200	+ H/C spaces per code. Near building entry and within employee parking.
Motorcycle	X	5 x 10	50	
Bicycle Parking	C		200	bike racks, canopy covered
Subtotal				
Circulation		60%		
PERSONAL VEHICLE PARKING TOTALS				

215	43,000
45	9,000
5	1,000
4	200
1	200
270	53,400
	32,040
	85,440

120	24,000
20	4,000
140	28,000
	16,800
	44,800

OTHER SITE AREAS

Emergency Generator	E		800	100% of facility (except bus washers). Diesel.
Dumpsters / Recycling				
Trash	X	12 x 30	360	
Recycle (Metal / Scrap)	X	12 x 30	360	
Recycle (Wood / Plastic / Paper)	X	12 x 30	360	
Snow Storage Area	X		5,000	
Subtotal				
Circulation		100%		
OTHER SITE AREAS TOTALS				

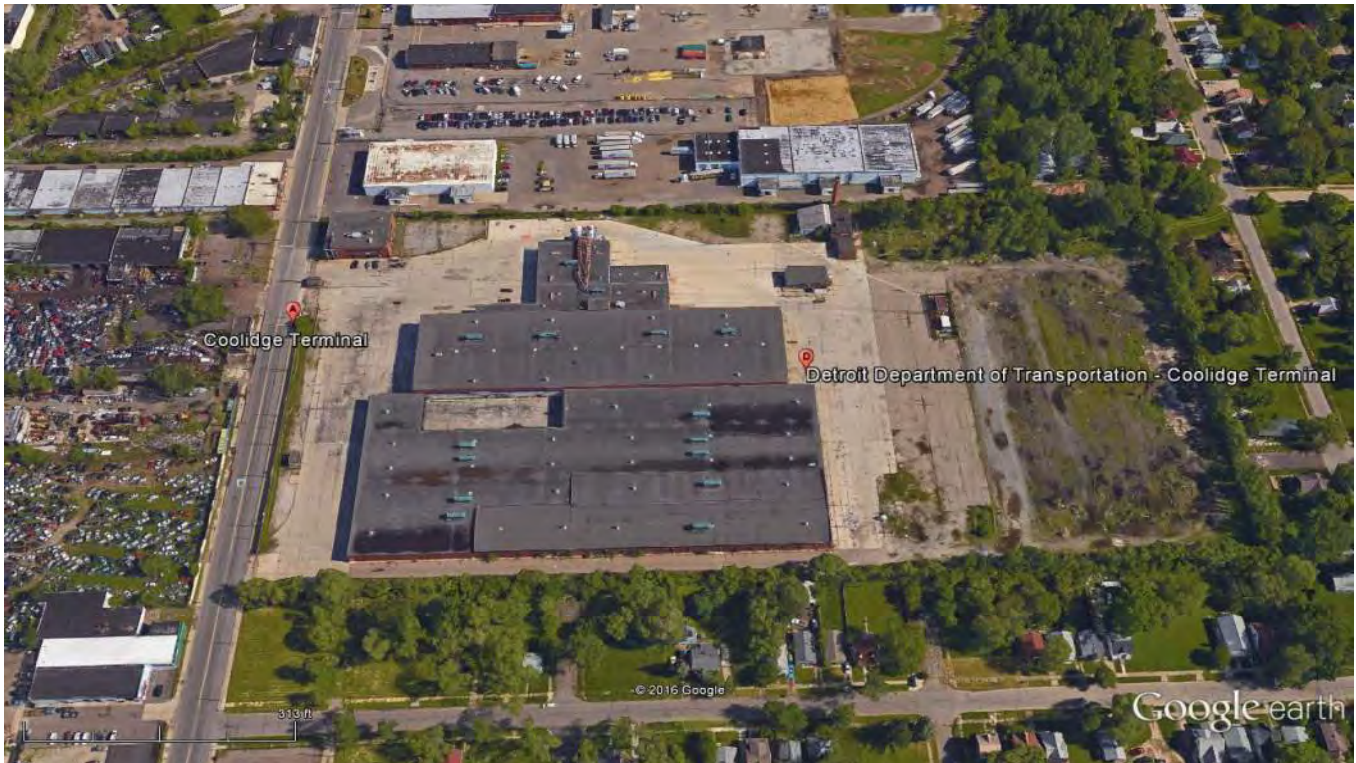
1	800
1	360
1	360
1	360
1	5,000
	6,880
	6,880
	13,760



Detroit Department of Transportation

**Coolidge Terminal
Preferred Option
Concept Design Estimate**

April 13, 2017



Revision 5
7/20/2017

Owner
Detroit Department of Transportation



Cost Estimator:

75 Arlington Street
Boston, MA 02116
(617) 426 7330



INTRODUCTION

Project Description:

Concept Estimate for the construction of a New Bus Maintenance Facility on the site of the existing disused facility at Coolidge Terminal "preferred option" (Phase 1 costs only).

Project Particulars: The estimate is based on the following information

Concept / program space information received up to 13th July, 2017

Previous WSP projects of a similar nature

Project Assumptions:

- The estimate is intended to be used as menu of potential projects and it is expected that DDOT will select the projects that best fulfill their most urgent needs for earliest implementation and budget for the remaining in their long term Master-Plan via a phased implementation approach.
- The estimate assumes that the project will be LEED Certified
- The estimate assumes that the project will be a CM "at risk" using a standard DDOT Contract.
- The estimate assumes bona fide bid returns from no less than three qualified sub-contractors for each of the sub-bids or trade packages
- The Construction Cost reflects the fair construction value of this project in a competitive bidding market.
- Unit rates are based on current dollars, using prevailing wage Labor
- Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead, home office overhead and subcontractor's profit and bonding
- Design and Pricing Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications. **Set at 25% at the request of DDOT**
- General Conditions and Requirements, OCIP , Fee and bond values have been based on a percentage of construction costs
- Phase 1 (Coolidge Terminal) Assumed start of construction is April 2018
- *Future phases(excluded from this document)*
- Phase 2 (Shoemaker Terminal) Assumed start of construction is April 2020
- Phase 3 (Coolidge Terminal) Assumed start of construction is April 2024

Project Exclusions: Any of the following that are DDOT "Soft Costs" are itemized separately outside of the construction budget

- Licensed Site Professional
- *A/E fees including CA*
- *RE/Field Engineering*
- *Printing/Advertising*
- *Legal fees and land acquisition costs*
- *Commissioning, Testing & inspection*
- *Traffic Signals and Pedestrian Crossings*
- *Information Technology*
- *F,F and E*
- *Site Surveys*
- *Environmental*
- *Artwork*
- *Asset Management*
- *Peer reviews*
- *Owner Contingency*



Design Option	GFA	PHASE 1	COST/SF
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EXECUTIVE SUMMARY

New Operations & Maintenance Facility	Phase 1	94,158	\$17,890,020	\$190.00
Maintenance Building equipment	Phase 1		\$8,273,061	
Body Repair & Paint	Phase 1	13,800	\$2,622,000	\$190.00
Parts storage	Phase 1	10,883	\$2,067,770	\$190.00
Fuel/Wash/Service	Phase 1	20,614	\$4,947,360	\$240.00
Indoor agency vehicle parking	Phase 1	147,798	\$18,474,750	\$125.00
Fare box Building		2,500	\$650,000	\$260.00
Plant Maintenance		6,430	\$1,221,700	\$190.00
Personal Vehicle parking	Phase 1	85,440	\$2,136,000	\$25.00
Other Site Areas		13,760	\$206,400	\$15.00
	Sub-total	395,383	\$58,489,061	\$147.93
Design, Program and Pricing Contingency	25.0%		\$14,622,265	\$36.98
	Design Contingency sub-total		\$14,622,265	\$36.98
Scope of work subject to Markups (Trade Costs)			\$73,111,326	\$184.91
Markups				
2	General Conditions;	4.5%	\$3,290,010	\$8.32
3	General requirements	5.5%	\$4,021,123	\$10.17
4	Performance & payment bonds	1.00%	\$804,225	\$2.03
5	Builders Risk	0.70%	\$562,957	\$1.42
6	Owner-Controlled Insurance Policy (OCIP)	1.20%	\$965,070	\$2.44
7	Permit	0.50%	\$402,112	\$1.02
8	Fee - (based on 1 through 3)	2.75%	\$2,211,618	\$5.59
9	Preconstruction services	1	LS	\$150,000
	Sub-total		\$12,407,114	\$31.38
*	CM's Contingency (2.5% of 1 through 3)	2.5%	\$2,010,561	\$5.09
	Estimated GMP 2nd Qtr 2017		\$87,529,002	\$221.38

Detroit Department of Transportation
Coolidge Terminal
Concept Design Estimate
July 20, 2017



	Design Option	GFA	PHASE 1	COST/SF
C	DDOT Soft Costs			
1	A/E fees including CA (10% on Phase 1)			\$8,752,900
3	R. E / Field Engineering	3%		\$2,625,870
4	Printing/Advertising			\$50,000
5	Legal			\$90,000
6	Commissioning, Testing & inspection			\$350,000
9	IT			\$300,000
10	F,F and E,			\$175,000
12	Site Surveys			\$80,000
13	Environmental			\$175,000
14	Funding Applications			\$125,000
16	Peer Reviews			\$115,000
				<u>\$115,000</u>
				Soft Costs Total
				\$12,838,770
18	Owner Contingency (allowance - to be set by DDOT)	7.50%		\$7,527,583
				<u>\$107,895,355</u>
	TOTAL PROJECT COST, CURRENT			
				\$107,895,355
	Escalation to 2nd Qtr 2018 start of construction	2.25%		\$2,427,645
				<u>\$2,427,645</u>
	PHASE 1 TOTAL PROJECT COST, 2ND QTR 2018			\$110,323,000



Detroit Department of Transportation

Coolidge Terminal
Preferred Option
Concept Design Estimate

April 13, 2017



Revision 5
7/20/2017

Owner
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Detroit Department of Transportation
Coolidge Terminal
Concept Design Estimate
July 20, 2017



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**DDOT-Coolidge Replacement
 Bus Terminal and HR&O
 PRELIMINARY SPACE PROGRAM
 Detroit, MI**

April 12, 2017

SUMMARY - Building Spaces	Phase 1	Phase 3
OPERATIONS	19,514	
MAINTENANCE	74,644	13,500
BODY REPAIR & PAINT	13,800	
PARTS STORES	10,883	
FUEL / WASH / SERVICE	20,614	
INDOOR AGENCY VEHICLE PARKING	147,798	71,280
FARE BOX BUILDING	2,500	
PLANT MAINTENANCE	6,430	
Total Building Spaces (sf)	296,183	84,780

SUMMARY - Outdoor Spaces		
PERSONAL VEHICLE PARKING	85,440	44,800
OTHER SITE AREAS	13,760	
Total Outdoor Spaces (sf)	99,200	44,800

Site Circulation	50%	197,692	22,400
Site Landscaping	10%	39,538	4,480
Site Setbacks	5%	19,769	2,240

Total Site Requirements (sf)		652,383	158,700
Total Site Requirements (acres)		14.98	3.64

**DDOT-Coolidge Replacement
Bus Terminal and HR&O**

Denotes- space may be on upper level

April 12, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

OPERATIONS

Administration								
Superintendent	E	12 x 18	216	include small conference table	1	1	216	
Assistant Superintendent	E	12 x 16	192		1	1	192	
Operations Supervisor	E	10 x 12	120		2	2	240	
Street Supervisors	E			adjacent to Operator's Lounge	6			
Meeting Area	O	15 x 24	360	to accommodate up to 15 people		1	360	
Workstations	O	6 x 6	36			6	216	
Counseling / Small Conf.	E	10 x 10	100			1	100	
Lost & Found	E	6 x 8	48			1	48	
Lobby / Waiting Area	O	10 x 15	150	seating for 4 people, bulletin boards, displays. At entrance to building.		1	150	
Waiting / Reception	O	10 x 12	120	seating for 4 people, adj. to Administration suite		1	120	
Unisex Restroom	E	8 x 8	64			1	64	
Copy / Work Room	E	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Recycling Area	A			within Copy / Work Room				
Training								
Training Room	E	20 x 30	600	20 people in each with divider between		2	1,200	
Training Office	E	12 x 20	240	adjacent to Training Room, with 2 desks	2	1	240	
A/V Storage	E	10 x 10	100	adjacent to Training Room		1	100	
Central Dispatch Suite								
Open Area	O	30 x 50	1,500		1	1	1,500	
Depot Office								
Depot Clerk	O	8 x 8	64	adjacent to Dispatch Counter	3	3	192	
Book Person	O	8 x 8	64		1	1	64	
Dispatcher	O	8 x 8	64		1	1	64	
Break Area	E	10 x 15	150	tables and chairs		1	150	
Unisex Restroom	E	8 x 8	64			1	64	
Driver Check-In Area	A	14 x 15	210			1	210	
Storage	E		175	schedules / records / transfers		1	175	
Driver Areas								
Operator's Lounge	E		*	To be shared/combined with vehicle maintenance tables / chairs, TV. 50 drivers at one time.	325	1	2,000	
Wellness Center	E		*	weights, treadmills, floor space for fitness activities		1	750	
Quiet Room	E	10 x 20	200			1	200	
Recreation Room	A		*	pool table, darts, etc, alcove off Lounge.		1	750	
Lunchroom	A		*	tables / chairs, TV. Open to Lounge.		1	1,000	
Vending / Kitchenette	A	10 x 20	200	Vending, refrig, microwave, sink		1	200	
Men's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 3 urinals, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Women's Restroom / Locker / Showers	E		*	adjacent to Locker Alcove. 4 toilets, 4 lavatories, 2 showers, 200 half lockers.		1	1,500	
Custodial Room	E	10 x 10	100	adjacent to Restrooms		1	100	
Telecommunication/IT Room	E	10 x 14	140			1	140	
Mechanical Room	E		*			1	400	
Electrical Room	E		*			1	100	
Subtotal							14,455	
Circulation					35%		5,059	
OPERATIONS TOTALS					343		19,514	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O**

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April 12, 2017

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60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space

MAINTENANCE								
Office Spaces								
Maintenance Superintendent	E	12 x 16	192		1	1	192	
Maintenance Planner / Clerk	O	8 x 8	64		2	2	128	
Visitor Workstation		6 x 6	36			1	36	
File Storage	O		*			1	100	
Copy / Work Area	O	10 x 15	150	fax, copier, cutting board, office supplies		1	150	
Maintenance Supervisors	E	12 x 18	216	shared office	6	1	216	
Consultation Room	O	10 x 10	100			1	100	
Maintenance Foremen	O	5 x 10	50	on Shop Floor. One Foreman per shift - share same space. One for Running Repair + 1 for PM + 1 for Body	6	3	150	
Timeclock	O		60	On Shop Floor, Near Supervisors		1	60	
Ref. Library / Learning Lab	E	12 x 14	168			1	168	
A/V Storage	E	8 x 8	64			1	64	
Unisex Toilet	E	8 x 8	64			1	64	
Shop Spaces								
Running Repair Bays								
				fall protection in every bay.		10 total		5 total
Standard Buses	O	20 x 55	1,100	in-ground lift. Two bays with bridge cranes.		8	8,800	3 3,300
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		2	3,000	2 3,000
				fall protection in every bay		4 total		3 total
Standard Buses	O	20 x 55	1,100	in-ground lift		3	3,300	2 2,200
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		1	1,500	1 1,500
HR & O Repair Bays								
				fall protection in every bay		8 total		
Standard Buses	O	20 x 55	1,100	in-ground lift		5	5,500	
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		3	4,500	
Component Repair Shops	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Metal Shop	O		*	bridge crane; adjacent to Repair Bays		1	2,000	
Tire / Brake Bay								
Standard Buses	O	20 x 55	1,100	in-ground lift		4 total		
Articulated Buses	O	20 x 75	1,500	in-ground lift. Fall protection.		2	3,000	
Tire Shop	O		200	adjacent to Tire Bay.		1	200	
Tire Storage	O		*	adjacent to Tire Bay.		1	1,000	
A/C Bays								
						2 total		
Standard Buses	E	20 x 55	1,100	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,100	
Articulated Buses	E	20 x 75	1,500	flat bay; Separate climate control. With bridge crane and fall protection.		1	1,500	
NRV Bays								
Light Vehicle Repair Bays	E	20 x 35	700	Above ground, 2-post, 18K pound lift		4	2,800	
Common Work Area	A		*	bridge crane; adjacent to Repair Bays		1	1,000	
Battery Room	E		200	may be in pre-fab building				
Tool Crib	E		*			1	2,000	
Tool Box Storage	E		*	One per shift		3	1,800	
Equipment Storage	O		*	near Maintenance Bays		2	1,100	
Support Spaces								
				To be combined/shared with Operations				
Maintenance Lunchroom	E		*	25 people at one time	65	1	625	
Vending / Kitchenette	A		200	adjacent to Maintenance Lunchroom		1	200	
Laundry Service Lockers	A		300	adjacent to Restrooms		1	300	
Men's RR / Shower / Lockers	E		*	2 toilets, 2 urinals, 3 lavs, 2 showers, 105 full lockers, vestibule		1	1,250	
Women's RR / Sh / Lockers	E		*	2 toilets, 1 lav, 1 shower, 30 lockers, vestibule		1	600	
Custodial Room	E		100	adjacent to Restrooms		2	200	
Lube / Compressor Room	E	25 x 45	1,125	EO (1,000), ATF (500), Mixed EC (650), GO (55), WWS (55), CG (55)		1	1,125	
Unisex Toilet	E	8 x 8	64			2	128	
Utility Entry Room	E	6 x 6	36			1	36	
Telecommunication/IT Room	E	10 x 10	100			1	100	
Mechanical Room	E		*			1	600	
Electrical Room	E		*			1	400	

Subtotal							55,292	10,000
Circulation		35%					19,352	3,500
MAINTENANCE TOTALS					80		74,644	13,500

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Space Name	Space Standard		Remarks	Staffing	Proposed		Proposed	
	dims	sf			Qty	Space	Qty	Space
BODY REPAIR & PAINT								
Body Repair Bays								
Standard Buses	E	20 x 55	1,100			4	<i>total</i>	
60-foot Articulated Buses	E	20 x 80	1,600			2	2,200	
Body Shop	O		800			1	800	
adjacent to Body Repair Bays								
Paint Booth Bays								
Standard Buses	E	30 x 60	1,800			2	<i>total</i>	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Articulated Buses	E	30 x 80	2,400			2	4,800	
in line with Paint Prep Bay. Down draft booth. Breathable air to painters hood. Heated air make-up.								
Vacuum Equipment	E	10 x 25	250			1	250	
Adj. to Body Repair Bays.								
Paint Mix / Storage	E		250			1	250	
Adj. to Paint Booth								
Subtotal							11,500	
Circulation					20%		2,300	
BODY REPAIR & PAINT TOTALS							13,800	

PARTS STORES								
Parts Office	O	12 x 12	144		1	1	144	
Parts Counter	O		100		3	1	100	
Shipping & Receiving	O		500			1	500	
within Parts Storage. At grade dock.								
Terminal Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
HR & O Parts Storage	E					1	4,000	
footprint sized for just-in-time deliveries								
Upholstery Storage	O		750			1	750	
incorporate in Parts Storage. Storage only.								
Non-hazardous Storage	E		200			1	200	
12 pallets total (2 high) in prefab containment building. Incl salt / sand.								
Hazardous Materials Storage	E		200			1	200	
2 drums in prefab containment building								
Subtotal							9,894	
Circulation					10%		989	
PARTS STORES TOTALS					4		10,883	

FUEL / WASH / SERVICE								
Office	E	12 x 12	144		17	1	144	
shared office								
Staff Car Gasoline Fueling Pos.	C	18 x 35	630			1	630	
Diesel Fueling Position	E	20 x 75	1,500			5	7,500	
including fueling, vacuum, fluid top off								
Lube / Compressor Room	E		1,000			1	1,000	
EO (280), ATF (280), Mixed EC (500), WWS (55)								
Wash								
Automatic Bus Washer	E	20 x 80	1,600			3	4,800	
drive-thru; In line with Service Lane								
Water Reclaim	E		1,000			1	1,000	
Chassis Wash Bay	E	20 x 80	1,600			1	1,600	
parallelogram Lift								
Chassis Wash Equipment	E		100			1	100	
adjacent to Chassis Wash Bay								
Bus Detail Lane	C							
in Bus Parking.								
Cleaning Storage Room	E		*			2	240	
storage of detail cleaning crew items								
Men's Restroom	E	8 x 8	64			1	64	
Women's Restroom	E	8 x 8	64			1	64	
Custodial Room	E	6 x 6	36			1	36	
adjacent to Restrooms								
Tank Farm - Vault	X							
pipe to existing tanks								
Diesel								
existing tanks to be re-used								
Gasoline								
existing tanks to be re-used								
DEF						1		
one 5,000 gallon AST. Locate in vault.								
Subtotal							17,178	
Circulation					20%		3,436	
FUEL / WASH / SERVICE TOTALS					17		20,614	

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60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks	Staffing	Phase 1 Proposed		Phase 3 Proposed	
	dims	sf			Qty	Space	Qty	Space

INDOOR AGENCY VEHICLE PARKING

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed	
Bus Parking							
40-foot Buses	X	12 x 40	480 add 3 feet between buses (nose to tail).		160	76,800	
60-foot Articulated Buses	X	12 x 60	720 add 3 feet between buses (nose to tail).		40	28,800	
Down Line							
40-foot Buses	X	12 x 40	480 included within bus parking.				
60-foot Articulated Buses	X	12 x 60	720 included within bus parking.				
Support Vehicles							
Operations	X	10 x 20	200 for Supervisors		8	1,600	
Maintenance	X	10 x 20	200 2 pick-up trucks, 1 service truck, 1 tug, 1 yard sweeper, 2 V-boxes, 2 plows		9	1,800	
Maintenance	X	12 x 40	480 1 tow truck		1	480	
Subtotal						109,480	52,800
Circulation 35%						38,318	18,480
INDOOR AGENCY VEHICLE PARKING TOTALS						147,798	71,280

FARE BOX BUILDING

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed	
Fare pull	E	25 x 80	2,000	1	1	2,000	
Subtotal						2,000	
Circulation 25%						500	
FARE BOX BUILDING TOTALS					1	2,500	

PLANT MAINTENANCE

Space Name		Space Standard	Remarks	Staffing	Phase 1 Proposed	Phase 3 Proposed	
Plant Office	E	12 x 12	144	1	1	144	
Plant Shop	E	50 x 100	5,000	1	1	5,000	
Subtotal						5,144	
Circulation 25%						1,286	
PLANT MAINTENANCE TOTALS					2	6,430	

**DDOT-Coolidge Replacement
Bus Terminal and HR&O**

Denotes- space may be on upper level

April 12, 2017

PRELIMINARY SPACE NEEDS PROGRAM

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 1	
160	
40	
200	

Phase 3	
80	
20	
100	

Space Name	Space Standard		Remarks
	dims	sf	

Staffing

Proposed	
Qty	Space

Proposed	
Qty	Space

PERSONAL VEHICLE PARKING

Employee Parking				
Operations	X	10 x 20	200	+ H/C spaces per code
Maintenance	X	10 x 20	200	+ H/C spaces per code
Fuel / Wash / Service	X	10 x 20	200	+ H/C spaces per code
Visitor Parking	X	10 x 20	200	+ H/C spaces per code. Near building entry and within employee parking.
Motorcycle	X	5 x 10	50	
Bicycle Parking	C		200	bike racks, canopy covered
Subtotal				
Circulation		60%		
PERSONAL VEHICLE PARKING TOTALS				

215	43,000
45	9,000
5	1,000
4	200
1	200
270	53,400
	32,040
	85,440

120	24,000
20	4,000
140	28,000
	16,800
	44,800

OTHER SITE AREAS

Emergency Generator	E		800	100% of facility (except bus washers). Diesel.
Dumpsters / Recycling				
Trash	X	12 x 30	360	
Recycle (Metal / Scrap)	X	12 x 30	360	
Recycle (Wood / Plastic / Paper)	X	12 x 30	360	
Snow Storage Area	X		5,000	
Subtotal				
Circulation		100%		
OTHER SITE AREAS TOTALS				

1	800
1	360
1	360
1	360
1	5,000
	6,880
	6,880
	13,760

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
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OPERATING GARAGE / FUEL & WASH

Operating Garage

Repair Bays (Running Repair and PM) (10 standard + 4 artic = 14 total)

1132	Cabinet / kiosk, computer, shop	500	7	3,500
1860	Workbench, severe use	1,400	7	9,800
2835	Vise, combination, swivel base, 6"	1,900	7	13,300
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15000	14	210,000

3785	Washer, parts, jet spray, small	16300	2	32,600
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5074	Crane, bridge, suspended, 1 ton	32,000	2	64,000
5650	Lift, axle, adj., 2 post, modular, 60,000 lb	150,000	10	1,500,000

5670	Lift, axle, adj., 3 post, modular, 90,000 lb	225,000	4	900,000
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6235	Personal fall protection unit	2,700	42	113,400
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8190A	Drops, air/electric, trapeze, standard	1,200	14	16,800
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8190C	Drops, air/electric, trapeze, w/ special electrical	1,200	7	8,400
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8210	Fuel management system, transit	1,000,000	1	1,000,000
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8710	Reel bank (WWF)	1,774	7	12,418
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8720	Reel bank (CG, GO)	3,306	7	23,142
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8730	Reel bank (ATF, Mixed EC, EO1)	5010	7	35,070
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Tire / Brake Bay (2 standard & 2 artic)

1860	Workbench, severe use	1,400	4	5,600
2835	Vise, combination, swivel base, 6"	1,900	4	7,600
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	4	60,000

5650	Lift, axle, adj., 2 post, modular, 60,000 lb	150,000	2	300,000
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5670	Lift, axle, adj., 3 post, modular, 90,000 lb	225,000	2	450,000
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6235	Personal fall protection unit	2,700	12	32,400
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8190A	Drops, air/electric, trapeze, standard	1,200	4	4,800
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Tire Shop and Storage

1642	Rack, tire, fabricated	600	10	6,000
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1860	Workbench, severe use	1,400	1	1,400
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2110	Cage, inflation, tire	900	1	900
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2450	Mounter/demounter, tire, truck	20,000	1	20,000
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2760	Spreader, tire	2,200	1	2,200
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4912	Wheel balancer, electronic, fixed, heavy duty	22,000	1	22,000
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8190E	Drops, air/electric, trapeze, w/ data	1,200	4	4,800
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DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
A/C Bays (1 standard & 1 artic)				
1132	Cabinet / kiosk, computer, shop	500	2	1,000
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1309	Ladder, safety, rolling, platform, 9 step	1,700	2	3,400
1490	Rack, gas cylinder, portable	900	1	900
1860	Workbench, severe use	1,400	1	1,400
2641	Refrigerant reclamation system, portable	7,800	2	15,600
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	2	30,000
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
5707B	Lift, drive-on, parallelogram, 75,000 lb, 48 ft, wet environment	275,000	2	550,000
6235	Personal fall protection unit	2,700	6	16,200
8190A	Drops, air/electric, trapeze, standard	1,200	6	7,200
8210	Fuel management system, transit		1	
8710	Reel bank (WWF)	1,774	1	1,774
8720	Reel bank (CG, GO)	3306	1	3306
8730	Reel bank (ATF, Mixed EC, EO1)	5,010	1	5,010
Common Work Area				
1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1860	Workbench, severe use	1,400	1	1,400
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
3785	Washer, parts, jet spray, small	16,300	1	16,300
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
Tool Crib (Provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500
Equipment Storage				
1305	Ladder, safety, rolling, 6 step	1,000	3	3,000
1310	Ladder, safety, rolling, 9 step	1,200	3	3,600
2140	Charger, battery, portable	1,600	4	6,400
2480	Packer, bearing, drum mounted	600	2	1,200
2641	Refrigerant reclamation system, portable	7,800	2	15,600
2730	Screen, welding, w/ casters	600	1	600
5015	Cart, battery lift	1,300	4	5,200
5025	Cart, bus detail	400	1	400
5030	Cart, parts	600	4	2,400
5260	Crane, portable, 1/2 ton	900	1	900
5312	Dolly, dual wheel, high lift	3,100	2	6,200
5341	Cart, shuttle, gasoline, 2+2		2	
5460	Hopper, self-dumping, 3/4 yard	1,530	7	10,710
5500	Jack, floor, rolling, 20 ton	1,980	1	1,980
5515	Jack, bottle hydraulic, 12 ton	150	4	600
5522	Jack, pallet, hand	550	1	550
5540	Jack, transmission, underhoist	2,620	1	2,620
5549	Lift, personnel, mobile, scissor type, 30 foot maximum height	75,000	1	75,000
5895	Stand, safety, tall, 33000 pounds, welded connections	1,900	12	22,800
5930	Truck, drum	720	1	720
5940	Truck, hand, 2 wheel	400	2	800
5960	Truck, platform, wood deck	800	3	2,400
9355	Filter, mechanical, portable	5,130	1	5,130

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Used Fluid Drops (2 total)				
8165A	Drain pan, portable, used oil	500	6	3,000
8165B	Drain pan, portable, used coolant	500	2	1,000
8492	Press, oil filter, pneumatic	3,330	2	6,660
8590	Pump, transfer (used oil)	1,940	2	3,880
8591	Pump, transfer (used coolant)	1,450	2	2,900
8592	Pump, diaphragm (sump waste water), with stand.	1,720	2	3,440
Emergency Shower / Clean (2 total)				
9400	Handwash station, shop	1,200	2	2,400
9820	Shower, drench, w/ eyewash	3,100	2	6,200
Lube / Compressor Room				
2170	Compressor, air, rec. mtd., 20 HP rotary screw	17,000	1	17,000
2230	Dryer, air, refrigerated, 150 CFM	4,600	1	4,600
5522	Jack, pallet, hand	550	1	550
5930	Truck, drum	720	1	720
8496	Press, 55 gallon drum / compactor, trash	17,500	1	17,500
8525	Pump, air piston (ATF), 4.25", 10:1	4,800	1	4,800
8534	Pump, air piston (CG), w/ hoist, 4.25", 50:1	7,060	1	7,060
8566A	Pump, air piston (EO1), 4.25", 10:1	4,810	1	4,810
8575	Pump, air piston (GO), 4.25", 10:1	4,900	1	4,900
8586	Pump, diaphragm (mixed EC)	1,300	1	1,300
8596	Pump, diaphragm (WWF)	1310	1	1310
8801	Tank, polyethylene, double wall, 1000 gallon (scrubber waste water)	5300	1	5,300
8942A	Tank, storage, cube, 1000 gallon (ATF)	4,600	1	4,600
8942B	Tank, storage, cube, 500 gallon (Used Coolant)	4,600	1	4,600
8942E	Tank, storage, cube, 1000 gallon (Mixed EC)	4600	1	4600
8945A	Tank, storage, cube, 1000 gallon (EO1)	6800	1	
8942F	Tank, storage, cube, 500 gallon (Used Oil)	4,600	1	4600
9820	Shower, drench, w/ eyewash	3,100	1	3,100
Body Repair Bays (2 standard + 2 artic = 4 Total)				
1305	Ladder, safety, rolling, 6 step	1,000	4	4,000
1310	Ladder, safety, rolling, 9 step	1,200	4	4,800
1660	Scaffold, portable	7000	2	7000
1860	Workbench, severe use	1,400	4	5,600
2835	Vise, combination, swivel base, 6"	1,900	4	7,600
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	4	60,000
5460	Hopper, self-dumping, 3/4 yard	1,530	2	3,060
5522	Jack, pallet, hand	550	1	550
5703	Lift, drive-on, parallelogram, 50,000 lb, 32 ft	175,000	1	175,000
5707A	Lift, drive-on, parallelogram, 75,000 lb, 48 ft	240,000	1	240,000
6050	Anchor, floor, cast-in	250	30	7,500
6235	Personal fall protection unit	2,700	16	43,200
8190D	Drops, air/electric, trapeze, w/ dust collection and special electrical	1200	16	19,200
9400	Handwash station, shop	1200	1	1200
9820	Shower, drench, w/ eyewash	3100	1	3100

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Body Shop				
1420	Rack, arm, single face, 7' high	800	3	2,400
1440	Rack, body panel, large	3,400	2	6,800
1764	Table, layout, steel top, 96"x36", w/ half set of casters	1,700	1	1,700
1772	Table, layout, wood top, 96"x36"	1,600	2	3,200
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2260	Grinder, 12" disc/6" belt	2,000	1	2,000
2705A	Saw, band, vertical, 20" (Aluminum)	10000	1	10,000
2705B	Saw, band, vertical, 20" (Steel)	10000	1	10000
2709	Saw, cut-off, abrasive/mitering, 16"-18"	6000	1	6,000
2730	Screen, welding, w/ casters	600	1	600
2900	Welder, MIG, portable, w/ wire feeder	5,000	2	10,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	2	4,000
2925	Welder, plasma cutter, portable	3,800	2	7,600
2935	Welder, TIG, portable	7,700	2	15,400
6450	Hydraulic pulling towers, body bay, 10 ton	4,200	1	4,200
6570	Machine, roll forming, 48", hand operated w/ stand	5,000	1	5,000
6702	Shear, metal, electric / hydraulic powered, 80 inch bed	13900	1	13,900
9355	Filter, mechanical, portable	5,130	1	5,130
Dust Collection Equipment				
2241	Dust collection system, central, shop, body, 6 station simultaneous	96,000	1	96,000
Paint Booth Bay (including paint mix)				
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
3787	Cleaner, paint gun	9,600	1	9,600
5556	Lift, man, pneumatic, paint booth/paint areas	35,000	4	140,000
6114	Booth, paint, vehicle, side-draft, artic, drive-through	275,000	2	550,000
6233	Purifier, breathing air, six stage, 5 mask capacity	20,000	2	40,000
6671	Shaker, paint, industrial, electric	6,015	1	6,015
Forklift / Scrubber Area (located in various areas for convenience)				
3357	Scrubber, floor, walk-behind, electric	18,000	4	72,000
5345	Forklift, LPG, riding, 8000 lb	45,000	1	45,000

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Fuel and Wash				
NRV Fueling				
8075A	Dispenser, fuel, dual hose (diesel + gasoline)	6,220	1	6,220
8055	Dispenser, diesel exhaust fluid (DEF), stand type	8,100	1	8,100
Diesel Fuel Lanes (5)				
3357	Scrubber, floor, walk-behind, electric	18,000	1	18,000
3361	Sweeper/scrubber, floor, diesel, riding, exterior	70,000	1	70,000
5460	Hopper, self-dumping, 3/4 yard	1,530	5	7,650
8055	Dispenser, diesel exhaust fluid (DEF), stand type	8,100	5	40,500
8075B	Dispenser, fuel, dual hose (diesel)	6,220	5	31,100
8245	Gantry, fuel, w/ hose & nozzle	29,200	5	146,000
8710	Reel bank (WWF)	1,774	5	8,870
8730	Reel bank (ATF, Mixed EC, EO1)	5,010	5	25,050
9820	Shower, drench, w/ eyewash	3,100	1	3,100
Fare Retrieval Positions (3)				
7800	Vault/receiver, farebox, mobile bin	48,200	5	241,000
Lube / Compressor Room				
2169	Compressor, air, rec. mtd., 10 HP rotary screw	15,000	1	15,000
2225	Dryer, air, refrigerated, 100 CFM	4,000	1	4,000
8525	Pump, air piston (ATF), 4.25", 10:1	4,800	1	4,800
8566A	Pump, air piston (EO1), 4.25", 10:1	4,810	1	4,810
8586	Pump, diaphragm (mixed EC)	1,300	1	1,300
8596	Pump, diaphragm (WWF)	1,310	1	1,310
8942A	Tank, storage, cube, 1000 gallon (ATF)	4,600	1	4,600
8942C	Tank, storage, cube, 500 gallon (EO1)	4,600	1	4,600
8942E	Tank, storage, cube, 1000 gallon (Mixed EC)	4,600	1	4,600
Bus Wash Bays (3)				
3622	Vacuum system, central, 4-station simultaneous	26,000	1	26,000
3901	Washer, vehicle, drive-thru, 4 brush	150,000	3	450,000
3936	Water reclamation system, 225 GPM	40,000	1	40,000
Chassis Wash Bay				
3720	Washer, pressure, hot water, NG	15,000	1	15,000
3720A	Hose Reel for 3720	2,000	2	4,000
5707B	Lift, drive-on, parallelogram, 75,000 lb, 48 ft, wet environment	275,000	1	275,000
9820	Shower, drench, w/ eyewash	3,100	1	3,100
Car / Light Truck Washer				
3820	Washer, vehicle, gantry, automotive	80,000	1	80,000

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Cleaning Storage				
1185	Cabinet, storage, shop, 18"	1,000	4	4,000
1680	Shelving unit, 18"	900	4	3,600
Tank Farm - Vault				
8275	Gauging/sensing system, tank level	18,000	1	18,000
8603	Pump, submersible, diesel exhaust fluid (DEF), 1 HP	1,700	1	1,700
8610	Pump, submersible, 3 HP	6,700	4	26,800
8865	Tank, fiberglass, double wall, 10,000 gallon (gasoline)	50,000	1	50,000
8866	Tank, fiberglass, double wall, 10000 gallon, (diesel - emergency generator)	500,000	1	500,000
8870	Tank, fiberglass, double wall, 20,000 gallon (diesel)	80,000	5	80,000
8874	Tank, composite steel, double wall, 10000 gallon (DEF)	45,000	1	45,000
<u>HEAVY REPAIR & OVERHAUL</u>				
Core Staging				
5145	Crane, jib, found. mtd., 16', 1 ton	11,000	1	11,000
5362	Hoist, chain, elect., 1 ton	8,930	1	8,930
Make Ready Area				
1860	Workbench, severe use	1,400	8	11,200
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2835	Vise, combination, swivel base, 6"	1,900	8	15,200
3785	Washer, parts, jet spray, small	16,300	1	16,300
5015	Cart, battery lift	1,300	4	5,200
5030	Cart, parts	600	3	1,800
5048	Crane, bridge, top running, 3 ton	46,000	1	46,000
5145	Crane, jib, found. mtd., 16', 1 ton	11,000	3	33,000
5362	Hoist, chain, elect., 1 ton	8,930	3	26,790
9840	Cart, unit	1,400	3	4,200
Common Work Area				
1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	3	3,000
1456	Rack, bulk storage, w/ deck	1,600	2	3,200
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705A	Saw, band, vertical, 20" (Aluminum)	10,000	1	10,000
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
3080	Cabinet, abrasive blast, medium, w/ dust collector	11,100	1	11,100
3785	Washer, parts, jet spray, small	16,300	3	48,900

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
HR&O Bays (5 standard & 3 artic)				
1132	Cabinet / kiosk, computer, shop	500	4	2,000
1302	Ladder, safety, rolling, 2 step	300	4	1,200
1309	Ladder, safety, rolling, platform, 9 step	1,700	4	6,800
2861	Vise, combination, swivel base, pedestal mounted, 6"	2,300	4	9,200
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	8	120,000
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
5078	Crane, bridge, suspended, 2 ton	36,000	3	108,000
5694	Lift, column, hydraulic, 4-set, 72,000 lb, wireless	76,000	5	380,000
5696	Lift, column, hydraulic, 6-set, 108,000 lb, wireless	11,500	3	34,500
5895	Stand, safety, tall, 33000 pounds, welded connections	1,900	4	
6235	Personal fall protection unit	2,700	24	64,800
8190A	Drops, air/electric, trapeze, standard	1,200	8	9,600
8190B	Drops, air/electric, trapeze, w/ dust collection	1,200	8	9,600
8190C	Drops, air/electric, trapeze, w/ special electrical	1,200	8	9,600
8190D	Drops, air/electric, trapeze, w/ dust collection and special electrical	1,200	8	9,600
8710	Reel bank (WWF)	1,774	8	14,192
8720	Reel bank (CG, GO)	3,306	8	26,448
8740	Reel bank (ATF, Mixed EC, EO1, EO2)	6,412	8	51,296
8997	Vending machine, tool / industrial commodity, fastenal		2	
9840	Cart, unit	1400	4	5,600
Welding Area				
1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1420	Rack, arm, single face, 7' high	800	6	4,800
1860	Workbench, severe use	1,400	4	5,600
2020	Anvil, w/ stand	3,800	1	3,800
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705A	Saw, band, vertical, 20" (Aluminum)	10,000	1	10,000
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
2861	Vise, combination, swivel base, pedestal mounted, 6"	2,300	1	2,300
2900	Welder, MIG, portable, w/ wire feeder	5,000	2	10,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
2925	Welder, plasma cutter, portable	3,800	1	3,800
2935	Welder, TIG, portable	7,700	1	7,700
5045	Crane, bridge, top running, 2 ton	42,000	1	42,000
9355	Filter, mechanical, portable	5,130	2	10,260

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Used Fluid Drops (2 total)				
8165A	Drain pan, portable, used oil	500	8	4,000
8165B	Drain pan, portable, used coolant	500	8	4,000
8492	Press, oil filter, pneumatic	3,330	1	3,330
8590	Pump, transfer (used oil)	1940	2	3880
8591	Pump, transfer (used coolant)	1450	2	2900
8592	Pump, diaphragm (sump waste water), with stand.	1,720	2	3,440
Emergency Shower / Clean (6 total)				
9400	Handwash station, shop	1,200	2	2,400
9820	Shower, drench, w/ eyewash	3,100	2	6,200
Equipment Storage				
1660	Scaffold, portable	7,000	1	7,000
2140	Charger, battery, portable	1,600	4	6,400
2480	Packer, bearing, drum mounted	600	2	1,200
2641	Refrigerant reclamation system, portable	7800	2	15,600
2730	Screen, welding, w/ casters	600	4	2,400
2900	Welder, MIG, portable, w/ wire feeder	5,000	2	10,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	2	4,000
2925	Welder, plasma cutter, portable	3,800	1	3,800
2935	Welder, TIG, portable	7,700	1	7,700
5010	Cart, battery	1,600	2	3,200
5025	Cart, bus detail	400	4	1,600
5030	Cart, parts	600	4	2,400
5260	Crane, portable, 1/2 ton	900	1	900
5290	Dolly, drum, 600 pound	240	4	960
5312	Dolly, dual wheel, high lift	3,100	4	12,400
5340	Cart, electric, riding, 3-wheel	6,000	2	12,000
5341	Cart, shuttle, gasoline, 2+2		1	
5460	Hopper, self-dumping, 3/4 yard	1,530	2	3,060
5501	Jack, floor, rolling, 6 ton	1,300	2	2,600
5515	Jack, bottle hydraulic, 12 ton	150	5	750
5520	Jack, pallet, electric	4,910	4	19,640
5522	Jack, pallet, hand	550	3	1,650
5540	Jack, transmission, underhoist	2,620	4	10,480
5549	Lift, personnel, mobile, scissor type, 30 foot maximum height	75,000	1	75,000
5930	Truck, drum	720	5	3,600
5940	Truck, hand, 2 wheel	400	4	1,600
5960	Truck, platform, wood deck	800	4	3,200
9355	Filter, mechanical, portable	5,130	4	20,520
Tool Crib (provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
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NRV VEHICLES

Light Vehicle Repair Bays (4)

1132	Cabinet / kiosk, computer, shop	500	2	1000
1860	Workbench, severe use	1,400	2	2,800
2835	Vise, combination, swivel base, 6"	1,900	2	3,800
3303	Reel, vehicle exhaust, motor operated, w/ 4" hose	8,000	4	32,000
3785	Washer, parts, jet spray, small	16,300	1	16,300
5765	Lift, surface mounted, two post, symmetrical, 18,000 lb	26,000	4	104,000
8190A	Drops, air/electric, trapeze, standard	1,200	8	9,600
8210	Fuel management system, transit		1	
8770	Reel bank (ATF, CG, EO1, EO2, EO3, GO, WWF)	10,025	4	40,100

Common Work Area

1140	Cabinet, flammable materials, large	1,800	3	5,400
1185	Cabinet, storage, shop, 18"	1,000	3	3,000
1800	Workbench, electronics, anti-static top, 2 cabinet	4,000	1	4,000
1860	Workbench, severe use	1,400	2	2,800
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2441	Mounter/demounter, tire, automotive	28,000	1	28,000
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
2730	Screen, welding, w/ casters	600	3	1,800
2835	Vise, combination, swivel base, 6"	1,900	2	3,800
2900	Welder, MIG, portable, w/ wire feeder	5,000	1	5,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
3783	Washer, parts, jet spray, large	50,200	1	50,200
4540	Power supply, 12 VDC, portable	2,000	1	2,000
4912	Wheel balancer, electronic, fixed, heavy duty	22,000	1	22,000

Equipment Storage

1305	Ladder, safety, rolling, 6 step	1,000	2	2,000
1309	Ladder, safety, rolling, platform, 9 step	1,700	1	1,700
2140	Charger, battery, portable	1,600	2	3,200
2480	Packer, bearing, drum mounted	600	1	600
2641	Refrigerant reclamation system, portable	7800	1	7,800
2900	Welder, MIG, portable, w/ wire feeder	5,000	1	5,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
4670	Tester, battery load	2,000	1	2,000
4700	Tester, electrical	4,000	1	4,000
5010	Cart, battery	1,600	2	3,200
5015	Cart, battery lift	1,300	1	1,300
5025	Cart, bus detail	400	1	400
5030	Cart, parts	600	3	1,800
5260	Crane, portable, 1/2 ton	900	1	900
5290	Dolly, drum, 600 pound	240	2	480
5310	Dolly, dual wheel	1,850	1	1,850
5460	Hopper, self-dumping, 3/4 yard	1,530	4	6,120
5500	Jack, floor, rolling, 20 ton	1,980	1	1,980
5501	Jack, floor, rolling, 6 ton	1,300	1	1,300
5540	Jack, transmission, underhoist	2,620	2	5,240
5549	Lift, personnel, mobile, scissor type, 30 foot maximum height	75,000	1	75,000
5895	Stand, safety, tall, 33000 pounds, welded connections	1,900	4	7,600
5930	Truck, drum	720	1	720
5940	Truck, hand, 2 wheel	400	2	800

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
Tool Crib (provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500
Emergency Shower / Clean (1 total)				
9400	Handwash station, shop	1,200	1	1,200
9820	Shower, drench, w/ eyewash	3,100	1	3,100
Used Fluid Drops (1 total)				
8165A	Drain pan, portable, used oil	500	4	2,000
8165B	Drain pan, portable, used coolant	500	4	2,000
8492	Press, oil filter, pneumatic	3,330	1	3,330
8590	Pump, transfer (used oil)	1,940	1	1,940
8591	Pump, transfer (used coolant)	1,450	1	1,450
8592	Pump, diaphragm (sump waste water), with stand.	1,720	1	1,720
Parts Storeroom				
1113	Cabinet, 9 drawer, 59"	2,400	10	24,000
1185	Cabinet, storage, shop, 18"	1,000	10	10,000
1456	Rack, bulk storage, w/ deck	1,600	6	9,600
1680	Shelving unit, 18"	900	10	9,000

DRAFT EQUIPMENT LIST- Phase 1
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
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MATERIALS MANAGEMENT/PLANT MAINTENANCE

Plant Maintenance

Material / Equipment Storage

1185	Cabinet, storage, shop, 18"	1,000	6	6,000
1426	Rack, arm, single face, heavy duty	3,800	8	30,400
1530	Rack, pallet, 42" deep, 10' high, 6000lb, w/ deck	1,900	20	38,000
1860	Workbench, severe use	1,400	4	5,600

Materials Management

Loading Dock

1150	Cabinet, LPG gas cylinder, horizontal, 12 unit capacity	3,000	2	6,000
1153	Cabinet, compressed gas cylinder, vertical, 10 unit capacity	3,000	12	36,000
5699	Lift, dock leveler w/ truck restraint	12,000	2	24,000

Shipping & Receiving

1530	Rack, pallet, 42" deep, 10' high, 6000lb, w/ deck	1,900	6	11,400
1762	Table, layout, steel top, 96"x45"	1,900	2	3,800

Warehouse

1140	Cabinet, flammable materials, large	1,800	6	10,800
1420	Rack, arm, single face, 7' high	800	18	14,400
1530	Rack, pallet, 42" deep, 10' high, 6000lb, w/ deck	1,900	36	68,400
1730	Stacking system, materials handling	110,000	5	550,000
3356	Sweeper / scrubber, floor, riding, LPG Hybrid, interior, large	60,000	1	60,000
3357	Scrubber, floor, walk-behind, electric	18,000	2	36,000
5015	Cart, battery lift	1,300	4	5,200
5030	Cart, parts	600	4	2,400
5345	Forklift, LPG, riding, 8000 lb	45,000	2	90,000
5352	Forklift, electric, walk-behind, 2000 lb	10,165	2	20,330
5520	Jack, pallet, electric	4,910	3	14,730
5522	Jack, pallet, hand	550	3	1,650
5785	Pallet, containment, hazardous materials	600	10	6,000
5940	Truck, hand, 2 wheel	400	3	1,200
5960	Truck, platform, wood deck	800	3	2,400
5343	Cart, glass, A-Frame		2	
9840	Cart, unit	1,400	20	28,000

Secure Storage

1680	Shelving unit, 18"	900	10	9,000
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TOTAL 8,273,061

END EQUIPMENT LIST

DRAFT EQUIPMENT LIST- Phase 3
DDOT - Proposed Coolidge Terminal and HR&O

Mark	Description	Price	Qty	Ext
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OPERATING GARAGE / FUEL & WASH

Operating Garage

Repair Bays (Running Repair and PM) (5 standard + 3 artic = 8 total)

1132	Cabinet / kiosk, computer, shop	500	4	2,000
1860	Workbench, severe use	1,400	4	5,600
2835	Vise, combination, swivel base, 6"	1,900	4	7,600
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15000	8	120,000
3785	Washer, parts, jet spray, small	16300	1	16,300
5074	Crane, bridge, suspended, 1 ton	32,000	2	64,000
5650	Lift, axle, adj., 2 post, modular, 60,000 lb	150,000	5	750,000
5670	Lift, axle, adj., 3 post, modular, 90,000 lb	225,000	3	675,000
6235	Personal fall protection unit	2,700	24	64,800
8190A	Drops, air/electric, trapeze, standard	1,200	8	9,600
8190C	Drops, air/electric, trapeze, w/ special electrical	1,200	8	9,600
8710	Reel bank (WWF)	1,774	4	7,096
8720	Reel bank (CG, GO)	3,306	4	13,224
8730	Reel bank (ATF, Mixed EC, EO1)	5010	4	20,040
	TOTAL			1,764,860

END EQUIPMENT LIST

**DDOT-Shoemaker Terminal
Bus Terminal and HR&O
PRELIMINARY SPACE NEEDS PROGRAM**

April 12, 2017

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses
60-foot Articulated Buses
Total Agency Vehicles

Phase 2	
200	
50	
250	

Space Name	Space Standard		Remarks
	dims	sf	

Proposed	
Qty	Space

OPERATIONS Assume current facilities to be adequate

MAINTENANCE The following additional spaces are required to complete this functional area

Shop Spaces						
Running Repair Bays						
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		2, 3,000
Preventive Maintenance Bays				fall protection in every bay		
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		1, 1,500
HR & O Bays				fall protection in every bay		
Standard Buses	O	20 x 55	1,100	in-ground lift		5, 5,500
60-foot Articulated Buses	O	20 x 75	1,500	in-ground lift		3, 4,500
Component Repair Shops	O			* bridge crane; adjacent to Repair Bays		1, 2,000
Metal Shop	O			* bridge crane; adjacent to Repair Bays		1, 2,000
Farebox Repair Shop	O			Based on existing shop size		1, 9,800
Tire / Brake Bay						
Articulated Buses	O	20 x 75	1,500	in-ground lift. Fall protection.		1, 1,500
A/C Bays						
Articulated Buses	E	20 x 75	1,500	flat bay; Separate climate control. With bridge crane and fall protection.		1, 1,500
NRV Bays						
Light Vehicle Repair Bays	E	20 x 35	700	Above ground, 2-post, 18K pound lift		4, 2,800
Subtotal						34,100
Circulation			35%			11,935
MAINTENANCE TOTALS						46,035

**THIS CAN BE ACCOMMODATED WITH NEW CONSTRUCTION.
EXISTING EMPLOYEE PARKING WILL MOVE AS REQUIRED TO ADDITIONAL PROPERTY TO ACCOMMODATE ADDITION.**

BODY REPAIR & PAINT Assume current facilities to be adequate

PARTS STORES The following additional spaces are required to complete this functional area

HR & O Parts Storage	E			footprint sized for just-in-time deliveries		1, 4,000
Subtotal						4,000
Circulation			10%			400
PARTS STORES TOTALS						4,400

**THIS CAN BE ACCOMMODATED WITH NEW CONSTRUCTION.
EXISTING EMPLOYEE PARKING WILL MOVE AS REQUIRED TO ADDITIONAL PROPERTY TO ACCOMMODATE ADDITION.**

**DDOT-Shoemaker Terminal
Bus Terminal and HR&O
PRELIMINARY SPACE NEEDS PROGRAM**

April 12, 2017

Detroit, MI

[E] = Enclosed, [O] = Open/Workstation, [A] = Alcove,

[C] = Canopy covered, [X] = Outdoors (exterior)

40-foot Buses	
60-foot Articulated Buses	
Total Agency Vehicles	

Phase 2	
200	
50	
250	

Space Name	Space Standard		Remarks
	dims	sf	

Proposed	
Qty	Space

FUEL / WASH / SERVICE Assume current facilities to be adequate

INDOOR AGENCY VEHICLE PARKING			The following additional spaces are required to complete this functional area			
Bus Parking						
60-foot Articulated Buses	X	12 x 60	720	add 3 feet between buses (nose to tail).	20	14,400
Subtotal						14,400
Circulation			35%	assumes stack parking.		5,040
INDOOR AGENCY VEHICLE PARKING TOTALS						19,440

THIS CAN BE ACCOMMODATED IN THE CURRENT WRITE-UP (PIT INSPECTION) AREA- WITH MINOR MODIFICATIONS.

FARE BOX BUILDING Assume current facilities to be adequate

PERSONAL VEHICLE PARKING			The following additional spaces are required to complete this functional area			
Employee Parking						
Operations	X	10 x 20	200	+ H/C spaces per code	200	40,000
Maintenance	X	10 x 20	200	+ H/C spaces per code	25	5,000
Visitor Parking	X	10 x 20	200	+ H/C spaces per code. Near building entry and within employee parking.	5	1,000
Motorcycle	X	5 x 10	50		5	250
Bicycle Parking	C		200	bike racks, canopy covered	1	200
Subtotal					236	46,450
Circulation			60%			27,870
PERSONAL VEHICLE PARKING TOTALS						74,320

**THIS CAN BE ACCOMMODATED WITH NEW CONSTRUCTION.
EXISTING EMPLOYEE PARKING WILL MOVE AS REQUIRED TO ADDITIONAL PROPERTY TO ACCOMMODATE ADDITION.**

OTHER SITE AREAS Assume current facilities to be adequate

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
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OPERATING GARAGE / FUEL & WASH

Operating Garage

Repair Bays (Running Repair and PM) (3 artic)

1132	Cabinet / kiosk, computer, shop	500	3	1,500
1860	Workbench, severe use	1,400	3	4,200
2835	Vise, combination, swivel base, 6"	1,900	3	5,700
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15000	3	45,000
3785	Washer, parts, jet spray, small	16300	1	16,300
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
5670	Lift, axle, adj., 3 post, modular, 90,000 lb	225,000	3	675,000
6235	Personal fall protection unit	2,700	9	24,300
8190A	Drops, air/electric, trapeze, standard	1,200	5	6,000
8190C	Drops, air/electric, trapeze, w/ special electrical	1,200	3	3,600
8710	Reel bank (WWF)	1,774	3	5,322
8720	Reel bank (CG, GO)	3,306	3	9,918
3	Reel bank (ATF, Mixed EC, EO1)	5010	3	15,030

Tire / Brake Bay (1 artic)

1860	Workbench, severe use	1,400	1	1,400
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	1	15,000
5670	Lift, axle, adj., 3 post, modular, 90,000 lb	225,000	1	225,000
6235	Personal fall protection unit	2,700	3	8,100
8190A	Drops, air/electric, trapeze, standard	1,200	2	2,400

Tire Shop and Storage

1642	Rack, tire, fabricated	600	10	6,000
1860	Workbench, severe use	1,400	1	1,400
2110	Cage, inflation, tire	900	1	900
2450	Mounter/demounter, tire, truck	20,000	1	20,000
2760	Spreader, tire	2,200	1	2,200
4912	Wheel balancer, electronic, fixed, heavy duty	22,000	1	22,000
8190E	Drops, air/electric, trapeze, w/ data	1,200	4	4,800

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
A/C Bays (1 artic)				
1132	Cabinet / kiosk, computer, shop	500	1	500
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1309	Ladder, safety, rolling, platform, 9 step	1,700	1	1,700
1490	Rack, gas cylinder, portable	900	1	900
1860	Workbench, severe use	1,400	1	1,400
2641	Refrigerant reclamation system, portable	7,800	1	7,800
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	1	15,000
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
5707B	Lift, drive-on, parallelogram, 75,000 lb, 48 ft, wet environment	275,000	1	275,000
6235	Personal fall protection unit	2,700	3	8,100
8190A	Drops, air/electric, trapeze, standard	1,200	5	6,000
8710	Reel bank (WWF)	1,774	1	1,774
8720	Reel bank (CG, GO)	3306	1	3306
8730	Reel bank (ATF, Mixed EC, EO1)	5,010	1	5,010
Common Work Area				
1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1860	Workbench, severe use	1,400	1	1,400
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
3785	Washer, parts, jet spray, small	16,300	1	16,300
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
Tool Crib (Provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500
Emergency Shower / Clean (2 total)				
9400	Handwash station, shop	1,200	2	2,400
9820	Shower, drench, w/ eyewash	3,100	2	6,200
Lube / Compressor Room				
2170	Compressor, air, rec. mtd., 20 HP rotary screw	17,000	1	17,000
2230	Dryer, air, refrigerated, 150 CFM	4,600	1	4,600
5522	Jack, pallet, hand	550	1	550
5930	Truck, drum	720	1	720
8496	Press, 55 gallon drum / compactor, trash	17,500	1	17,500
8525	Pump, air piston (ATF), 4.25", 10:1	4,800	1	4,800
8534	Pump, air piston (CG), w/ hoist, 4.25", 50:1	7,060	1	7,060
8566A	Pump, air piston (EO1), 4.25", 10:1	4,810	1	4,810
8575	Pump, air piston (GO), 4.25", 10:1	4,900	1	4,900
8586	Pump, diaphragm (mixed EC)	1,300	1	1,300
8596	Pump, diaphragm (WWF)	1310	1	1310
8801	Tank, polyethylene, double wall, 1000 gallon (scrubber waste water)	5300	1	5,300
8942A	Tank, storage, cube, 1000 gallon (ATF)	4,600	1	4,600
8942B	Tank, storage, cube, 500 gallon (Used Coolant)	4,600	1	4,600
8942E	Tank, storage, cube, 1000 gallon (Mixed EC)	4600	1	4600
8945A	Tank, storage, cube, 1000 gallon (EO1)	6800	1	
8942F	Tank, storage, cube, 500 gallon (Used Oil)	4,600	1	4600

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
9820	Shower, drench, w/ eyewash	3,100	1	3,100

HEAVY REPAIR & OVERHAUL

Core Staging

5145	Crane, jib, found. mtd., 16', 1 ton	11,000	1	11,000
5362	Hoist, chain, elect., 1 ton	8,930	1	8,930

Make Ready Area

1860	Workbench, severe use	1,400	8	11,200
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2835	Vise, combination, swivel base, 6"	1,900	8	15,200
3785	Washer, parts, jet spray, small	16,300	1	16,300
5015	Cart, battery lift	1,300	4	5,200
5030	Cart, parts	600	3	1,800
5048	Crane, bridge, top running, 3 ton	46,000	1	46,000
5145	Crane, jib, found. mtd., 16', 1 ton	11,000	3	33,000
5362	Hoist, chain, elect., 1 ton	8,930	3	26,790
9840	Cart, unit	1,400	3	4,200

Common Work Area

1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	3	3,000
1456	Rack, bulk storage, w/ deck	1,600	2	3,200
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705A	Saw, band, vertical, 20" (Aluminum)	10,000	1	10,000
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
3080	Cabinet, abrasive blast, medium, w/ dust collector	11,100	1	11,100
3785	Washer, parts, jet spray, small	16,300	3	48,900

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
HR&O Bays (5 standard & 3 artic)				
1132	Cabinet / kiosk, computer, shop	500	4	2,000
1302	Ladder, safety, rolling, 2 step	300	4	1,200
1309	Ladder, safety, rolling, platform, 9 step	1,700	4	6,800
2861	Vise, combination, swivel base, pedestal mounted, 6"	2,300	4	9,200
3305	Reel, vehicle exhaust, motor operated, w/ 8" hose	15,000	8	120,000
5074	Crane, bridge, suspended, 1 ton	32,000	1	32,000
5078	Crane, bridge, suspended, 2 ton	36,000	3	108,000
5694	Lift, column, hydraulic, 4-set, 72,000 lb, wireless	76,000	5	380,000
5696	Lift, column, hydraulic, 6-set, 108,000 lb, wireless	11,500	3	34,500
5895	Stand, safety, tall, 33000 pounds, welded connections	1,900	4	
6235	Personal fall protection unit	2,700	24	64,800
8190A	Drops, air/electric, trapeze, standard	1,200	8	9,600
8190B	Drops, air/electric, trapeze, w/ dust collection	1,200	8	9,600
8190C	Drops, air/electric, trapeze, w/ special electrical	1,200	8	9,600
8190D	Drops, air/electric, trapeze, w/ dust collection and special electrical	1,200	8	9,600
8710	Reel bank (WWF)	1,774	8	14,192
8720	Reel bank (CG, GO)	3,306	8	26,448
8740	Reel bank (ATF, Mixed EC, EO1, EO2)	6,412	8	51,296
8997	Vending machine, tool / industrial commodity, fastenal		2	
9840	Cart, unit	1400	4	5,600
Welding Area				
1140	Cabinet, flammable materials, large	1,800	1	1,800
1185	Cabinet, storage, shop, 18"	1,000	1	1,000
1420	Rack, arm, single face, 7' high	800	6	4,800
1860	Workbench, severe use	1,400	4	5,600
2020	Anvil, w/ stand	3,800	1	3,800
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705A	Saw, band, vertical, 20" (Aluminum)	10,000	1	10,000
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
2835	Vise, combination, swivel base, 6"	1,900	1	1,900
2861	Vise, combination, swivel base, pedestal mounted, 6"	2,300	1	2,300
2900	Welder, MIG, portable, w/ wire feeder	5,000	2	10,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
2925	Welder, plasma cutter, portable	3,800	1	3,800
2935	Welder, TIG, portable	7,700	1	7,700
5045	Crane, bridge, top running, 2 ton	42,000	1	42,000
9355	Filter, mechanical, portable	5,130	2	10,260

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
Used Fluid Drops (2 total)				
8165A	Drain pan, portable, used oil	500	8	4,000
8165B	Drain pan, portable, used coolant	500	8	4,000
8492	Press, oil filter, pneumatic	3,330	1	3,330
8590	Pump, transfer (used oil)	1940	2	3880
8591	Pump, transfer (used coolant)	1450	2	2900
8592	Pump, diaphragm (sump waste water), with stand.	1,720	2	3,440
Emergency Shower / Clean (6 total)				
9400	Handwash station, shop	1,200	2	2,400
9820	Shower, drench, w/ eyewash	3,100	2	6,200
Equipment Storage				
1660	Scaffold, portable	7,000	1	7,000
2140	Charger, battery, portable	1,600	4	6,400
2480	Packer, bearing, drum mounted	600	2	1,200
2641	Refrigerant reclamation system, portable	7800	2	15,600
2730	Screen, welding, w/ casters	600	4	2,400
2900	Welder, MIG, portable, w/ wire feeder	5,000	2	10,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	2	4,000
2925	Welder, plasma cutter, portable	3,800	1	3,800
2935	Welder, TIG, portable	7,700	1	7,700
5010	Cart, battery	1,600	2	3,200
5025	Cart, bus detail	400	4	1,600
5030	Cart, parts	600	4	2,400
5260	Crane, portable, 1/2 ton	900	1	900
5290	Dolly, drum, 600 pound	240	4	960
5312	Dolly, dual wheel, high lift	3,100	4	12,400
5340	Cart, electric, riding, 3-wheel	6,000	2	12,000
5341	Cart, shuttle, gasoline, 2+2		1	
5460	Hopper, self-dumping, 3/4 yard	1,530	2	3,060
5501	Jack, floor, rolling, 6 ton	1,300	2	2,600
5515	Jack, bottle hydraulic, 12 ton	150	5	750
5520	Jack, pallet, electric	4,910	4	19,640
5522	Jack, pallet, hand	550	3	1,650
5540	Jack, transmission, underhoist	2,620	4	10,480
5549	Lift, personnel, mobile, scissor type, 30 foot maximum height	75,000	1	75,000
5930	Truck, drum	720	5	3,600
5940	Truck, hand, 2 wheel	400	4	1,600
5960	Truck, platform, wood deck	800	4	3,200
9355	Filter, mechanical, portable	5,130	4	20,520
Tool Crib (provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
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NRV VEHICLES

Light Vehicle Repair Bays (4)

1132	Cabinet / kiosk, computer, shop	500	2	1000
1860	Workbench, severe use	1,400	2	2,800
2835	Vise, combination, swivel base, 6"	1,900	2	3,800
3303	Reel, vehicle exhaust, motor operated, w/ 4" hose	8,000	4	32,000
3785	Washer, parts, jet spray, small	16,300	1	16,300
5765	Lift, surface mounted, two post, symmetrical, 18,000 lb	26,000	4	104,000
8190A	Drops, air/electric, trapeze, standard	1,200	8	9,600
8210	Fuel management system, transit		1	
8770	Reel bank (ATF, CG, EO1, EO2, EO3, GO, WWF)	10,025	4	40,100

Common Work Area

1140	Cabinet, flammable materials, large	1,800	3	5,400
1185	Cabinet, storage, shop, 18"	1,000	3	3,000
1800	Workbench, electronics, anti-static top, 2 cabinet	4,000	1	4,000
1860	Workbench, severe use	1,400	2	2,800
2080	Buffer/grinder, 8", w/ dust collector	11,500	1	11,500
2205	Drill press, variable speed, 15"	2,700	1	2,700
2441	Mounter/demounter, tire, automotive	28,000	1	28,000
2539	Press, hydraulic, 20 ton	2,600	1	2,600
2705B	Saw, band, vertical, 20" (Steel)	10,000	1	10,000
2730	Screen, welding, w/ casters	600	3	1,800
2835	Vise, combination, swivel base, 6"	1,900	2	3,800
2900	Welder, MIG, portable, w/ wire feeder	5,000	1	5,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
3783	Washer, parts, jet spray, large	50,200	1	50,200
4540	Power supply, 12 VDC, portable	2,000	1	2,000
4912	Wheel balancer, electronic, fixed, heavy duty	22,000	1	22,000

Equipment Storage

1305	Ladder, safety, rolling, 6 step	1,000	2	2,000
1309	Ladder, safety, rolling, platform, 9 step	1,700	1	1,700
2140	Charger, battery, portable	1,600	2	3,200
2480	Packer, bearing, drum mounted	600	1	600
2641	Refrigerant reclamation system, portable	7800	1	7,800
2900	Welder, MIG, portable, w/ wire feeder	5,000	1	5,000
2920	Welder, oxyacetylene, portable, w/ cart	2,000	1	2,000
4670	Tester, battery load	2,000	1	2,000
4700	Tester, electrical	4,000	1	4,000
5010	Cart, battery	1,600	2	3,200
5015	Cart, battery lift	1,300	1	1,300
5025	Cart, bus detail	400	1	400
5030	Cart, parts	600	3	1,800
5260	Crane, portable, 1/2 ton	900	1	900
5290	Dolly, drum, 600 pound	240	2	480
5310	Dolly, dual wheel	1,850	1	1,850
5460	Hopper, self-dumping, 3/4 yard	1,530	4	6,120
5500	Jack, floor, rolling, 20 ton	1,980	1	1,980
5501	Jack, floor, rolling, 6 ton	1,300	1	1,300
5540	Jack, transmission, underhoist	2,620	2	5,240
5549	Lift, personnel, mobile, scissor type, 30 foot maximum height	75,000	1	75,000
5895	Stand, safety, tall, 33000 pounds, welded connections	1,900	4	7,600
5930	Truck, drum	720	1	720
5940	Truck, hand, 2 wheel	400	2	800

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
Tool Crib (provide slot wall on one wall)				
1185	Cabinet, storage, shop, 18"	1,000	5	5,000
1680	Shelving unit, 18"	900	5	4,500
Emergency Shower / Clean (1 total)				
9400	Handwash station, shop	1,200	1	1,200
9820	Shower, drench, w/ eyewash	3,100	1	3,100
Used Fluid Drops (1 total)				
8165A	Drain pan, portable, used oil	500	4	2,000
8165B	Drain pan, portable, used coolant	500	4	2,000
8492	Press, oil filter, pneumatic	3,330	1	3,330
8590	Pump, transfer (used oil)	1,940	1	1,940
8591	Pump, transfer (used coolant)	1,450	1	1,450
8592	Pump, diaphragm (sump waste water), with stand.	1,720	1	1,720
Parts Storeroom				
1113	Cabinet, 9 drawer, 59"	2,400	10	24,000
1185	Cabinet, storage, shop, 18"	1,000	10	10,000
1456	Rack, bulk storage, w/ deck	1,600	6	9,600
1680	Shelving unit, 18"	900	10	9,000

DRAFT EQUIPMENT LIST- Phase 2
DDOT - Proposed Shoemaker Terminal and HR&O

Mark	Description	Price	Qty	Ext
MATERIALS MANAGEMENT				
Loading Dock				
1150	Cabinet, LPG gas cylinder, horizontal, 12 unit capacity	3,000	2	6,000
1153	Cabinet, compressed gas cylinder, vertical, 10 unit capacity	3,000	12	36,000
5699	Lift, dock leveler w/ truck restraint	12,000	2	24,000
Shipping & Receiving				
1530	Rack, pallet, 42" deep, 10' high, 6000lb, w/ deck	1,900	6	11,400
1762	Table, layout, steel top, 96"x45"	1,900	2	3,800
Warehouse				
1140	Cabinet, flammable materials, large	1,800	6	10,800
1420	Rack, arm, single face, 7' high	800	18	14,400
1530	Rack, pallet, 42" deep, 10' high, 6000lb, w/ deck	1,900	36	68,400
1730	Stacking system, materials handling	110,000	5	550,000
3356	Sweeper / scrubber, floor, riding, LPG Hybrid, interior, large	60,000	1	60,000
3357	Scrubber, floor, walk-behind, electric	18,000	2	36,000
5015	Cart, battery lift	1,300	4	5,200
5030	Cart, parts	600	4	2,400
5345	Forklift, LPG, riding, 8000 lb	45,000	2	90,000
5352	Forklift, electric, walk-behind, 2000 lb	10,165	2	20,330
5520	Jack, pallet, electric	4,910	3	14,730
5522	Jack, pallet, hand	550	3	1,650
5785	Pallet, containment, hazardous materials	600	10	6,000
5940	Truck, hand, 2 wheel	400	3	1,200
5960	Truck, platform, wood deck	800	3	2,400
5343	Cart, glass, A-Frame		2	
9840	Cart, unit	1,400	20	28,000
Secure Storage				
1680	Shelving unit, 18"	900	10	9,000
TOTAL				3,757,706

END EQUIPMENT LIST



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION DIVISION
SOUTHEAST MICHIGAN DISTRICT OFFICE
27700 DONALD COURT
WARREN, MICHIGAN 48092**

**SUBSURFACE INVESTIGATION AND FEASIBILITY STUDY
CITY OF DETROIT – DOT
14044 SCHAEFER HIGHWAY
DETROIT, WAYNE COUNTY,
MICHIGAN**

PROJECT #54910

October 2012

Office Location:
Gannett Fleming of Michigan, Inc.
44099 Plymouth Oaks Boulevard, Suite 102
Plymouth, MI 48170

Office Contacts:
Craig Savage, C.P.
Martha Hannah, P.E.
Phone 734-459-6955

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TABLE 3	Monitoring Well Groundwater Analytical Results

FIGURES

FIGURE 1	Site Location Map
FIGURE 2	Soil Boring and Monitoring Well Location Map
FIGURE 3	Soil Analytical Exceedances Map
FIGURE 4	Groundwater Analytical Exceedances Map

APPENDICES

APPENDIX A	Boring Logs
APPENDIX B	Analytical Reports

1.0 INTRODUCTION

The Michigan Department of Environmental Quality (MDEQ) retained Gannett Fleming of Michigan Inc. (Gannett Fleming) to conduct a limited subsurface investigation and evaluate remedial options to address contamination at the City of Detroit-DOT property, located at 14044 Schafer Highway in Detroit, Wayne County, Michigan (Figure 1). Due to recent financial hardship, the City of Detroit cannot conduct remedial activities and has been deemed a non-viable liable party. The State of Michigan has opted to take over the site characterization and remedial action at the site and has authorized Gannett Fleming to conduct remedial activities under the Level of Effort contract mechanism. This work was authorized by the Michigan Department of Technology, management & Budget under Purchase Order 761P2200040, dated October 7, 2011.

1.1 Site Background and Description

The City of Detroit – DOT property (also known as the Coolidge Terminal Facility) was operated as a bus storage and maintenance depot by the Detroit Department of Transportation (DDOT) as recently as January 2012. The site has been inactive since January 2012 to facilitate upgrades and modifications to the terminal. The property has operated as a bus terminal since at least the mid-1940's. Features of the site at the time of this investigation include a 150,000 square foot (approx.) main building used for fueling, storage, cleaning and service/maintenance of DDOT buses, and several smaller out-buildings including an administrative building, a fare box storage building, and a boiler/heating plant building. The remainder of the site is mostly paved with concrete or asphalt (Figure 2).

The area around the site is zoned for commercial and residential uses. Adjacent properties include a salvage yard to the west (across Schaefer Highway), a trucking / shipping company to the north, and residential properties to the south and east.

1.2 Underground Storage Tank Status

According to information provided by the MDEQ, 17 underground storage tanks (USTs) were installed at the site in 1946 and two more were installed in 1979-80. These USTs ranged in size from 500 to 50,000 gallons and contained various liquids, including

diesel fuel, gasoline, engine oil, convertor oil, Dexron (transmission fluid), used oil, and water. All of these tanks were removed or closed-in-place in late 1999 and early 2000.

Six new USTs were installed at the site in 2001 to replace those removed the previous year. These USTs are still in use, and include four 25,000-gallon diesel tanks, one 10,000-gallon gasoline tank and one 1,000 gallon used oil tank.

1.3 Release History and Corrective Actions

Five confirmed releases are on file for the site: three confirmed releases were reported in December 1999, one was reported in January 2000, and the last was reported in September 2006. The 1999 release were identified during construction activities around the USTs and involved several oil, diesel and gasoline tanks. The 2000 release occurred when a diesel transfer pipe failed near the northwest portion of the garage/service building, resulting in an emergency evacuation of personnel from the building. The 2006 release was related to a leaking diesel fuel clamp. No response activities are known to have been performed in response to the 2006 release. The volumes of these releases are unknown.

Interim response and site investigation activities were conducted at the site by The Traverse Group from 1999 through 2003. During the course of these investigations, 41 soil borings were advanced, seven temporary monitoring wells were installed, and 9 permanent monitoring wells were installed. Soil sample and groundwater data from these investigations indicated that contamination had migrated off-site to the property immediately north of and adjacent to the former USTs. In April 2003, petroleum free-product, or light non-aqueous phase liquid (LNAPL), was observed in monitoring well MW-15, located directly north of the main building, near the former fuel pump house, and at the northern property line. LNAPL thickness was monitored for six months, and in ten monitoring events, never exceeded 2.76 inches. Monitoring was terminated after October 2003, when product thickness had dropped to 0.24 inches. Six other monitoring wells were included in the LNAPL monitoring events, but LNAPL was only observed in MW-15.

These investigations conducted by the Traverse Group were summarized in the following reports:

- Initial Assessment Report (IAR) (March 20, 2000)

- Final Assessment Report (FAR) (December 31, 2001).
- Amended Final Assessment Report (AFAR) (August 29, 2003)
- Free Product Status Recovery Report (July 14, 2003)
- Free Product Status Recovery Report (October 19, 2003)

Based on information in the AFAR, 6,260 cubic yards of contaminated soil was removed during various site activities, including the closure of the former USTs and installation of the new USTs and communications line. This soil was disposed at the Waste Management Woodland Meadows facility, in Wayne, Michigan. In addition, 2,800 gallons of impacted groundwater and (estimated) 272 gallons of LNAPL were collected from the excavation pits and disposed off site.

The City of Detroit has not conducted any response activities since 2003. In 2008, the Traverse Group voluntarily waived its status as a Qualified UST Consultant, and is no longer involved with the remedial activities. According to MDEQ file notes, a Notice of Off-Site Migration was prepared and submitted to the property owner, but this could not be confirmed from information reviewed for this report.

2.0 OBJECTIVES

The primary objectives of the work at the site were determined during several meetings and communications with the MDEQ. These objectives are summarized below:

- Determine the nature and extent of soil and groundwater contamination at the site.
- Determine the present location of light non-aqueous phase liquid (LNAPL, or free product), if present, at the site.
- Assess the potential for and risk due to vapor intrusion into the on-site main building.
- Identify alternatives for remediating the LNAPL source area and the soil and groundwater contamination at the site.

During a September 21, 2011 meeting with the MDEQ, it was agreed that the initial phase of work would be limited to on-site activities, and that off-site investigations would occur at a later time, as necessary.

3.0 SUMMARY OF INVESTIGATION ACTIVITIES

3.1 Geophysical Survey

On January 27, 2012, Fibertec Environmental Services (Fibertec) conducted a geophysical survey using ground penetrating radar (GPR) and electromagnetic (EM) induction. This survey was performed in areas where subsurface investigations were to be conducted to locate underground utilities not marked by the MISS-DIG one-call system and to identify locations of USTs, both active USTs and closed-in-place. The GPR produced mixed results in attempts to identifying some utilities on site due to heavy rains producing puddles and saturated soil conditions the day prior to the survey. However, the GPR equipment was able to easily identify the existing and closed in place USTs. The EM survey was more successful at identifying the communications line and other small diameter piping and cable runs within the study. These subsurface features were marked using non-toxic paint so that they could be avoided during drilling.

3.2 Subsurface Investigation and Sampling

On January 30 through February 2, 2012, under supervision of Gannett Fleming personnel, Fibertec advanced 30 direct push soil borings (SB-1 through SB-30) (Figure 2). Ten borings, SB-1 through SB-10, were placed in the area near the southeast corner of the main building where three USTs were formerly located (former SE UST area). The other 20 borings, SB-11 through SB-30, were placed in the area north of the main building where the current USTs and most of the former USTs were located (North UST area). The former USTs in the SE UST area were closed and removed, while some of the former USTs in the North UST area were closed-in-place by filling with inert material.

Each soil boring was sampled continuously from the ground surface to the terminus of the boring using a five foot long by two inch diameter macro-core barrel equipped with disposable sample liners. Soil total depths of the soil borings ranged from 10 feet to 20 feet below ground surface (bgs). The core barrels were advanced in 5 foot intervals, after which they were removed and the soil was examined by the Gannett Fleming field geologist. Soil lithology, soil appearance and presence of staining, soil odors and photoionization detector (PID) readings, and other pertinent observations were recorded on soil boring logs. Soil lithology was described using the Unified Soil Classification System (USCS). Soil boring logs are presented in Appendix A.

Soil samples were obtained at two foot intervals along the entire vertical soil column and field-screened for the presence of volatile organic compounds using a PID calibrated to a 100 parts per million (ppm) isobutylene standard gas. PID screening results were used to provide qualitative relative comparisons of contaminants in soil between borings and depth intervals. PID results were also used to select the soil samples that would be submitted to the analytical laboratory for detailed analyses. The PID readings are included on the boring logs presented in Appendix A.

Where practicable, soil samples were collected for laboratory analysis from two intervals at each boring. One sample was generally collected from the interval that had the highest PID reading and a second sample from a deeper interval with a low PID reading to vertically delineate the extent of petroleum related constituents.

Groundwater samples were collected for laboratory analysis from temporary monitoring wells at soil boring locations that produced sufficient groundwater to collect a sample. Temporary monitoring wells were constructed of 1-inch PVC casing directly installed into the soil boring. Only three of the 30 soil borings, SB-5, SB-17 and SB-18, contained sufficient groundwater to warrant installation of temporary monitoring wells and collection of groundwater samples.

A total of 58 soil samples and 3 groundwater samples were collected from the 30 soil borings advanced during this phase of the subsurface investigation. All samples were submitted to the MDEQ Environmental Laboratory in Lansing, Michigan. All soil and groundwater samples collected were analyzed for BTEX, MTBE, and TMBs by USEPA Solid Waste SW-846 Method 8260; polynuclear aromatic hydrocarbons (PNAs) by USEPA SW-846 Method 8270; and lead by USEPA SW-846 Method 6020. One soil sample, SB-3 (2-4) was analyzed for diesel range organics and gasoline range organics by USEPA SW-846 Method 8015 and for TCLP VOCs and TCLP metals. All samples were placed on ice and delivered to the laboratory following Gannett Fleming's chain-of-custody protocol. Soil and groundwater analytical results for samples collected during soil boring advancement are summarized in Tables 1 and 2 and presented graphically on Figures 3 and 4. Copies of the laboratory reports are provided in Appendix B.

3.3 Soil Gas Probe Installation

Gannett Fleming originally planned on converting soil borings SB-28, SB-29 and SB-30 to soil gas sampling points to evaluate the volatilization to indoor air vapor inhalation pathway inside the main building. Sub-slab samples inside the main building were considered unfeasible due to the high levels of ambient VOC concentrations inside the maintenance/fueling areas. Therefore, soil gas probes outside the building foundation/footer, between the USTs and the building, were deemed a more practical approach to assess this pathway. During drilling, ubiquitous shallow (< 4 feet) thick clay was found beneath the site with somewhat more permeable fill above. This clay had a porosity too low to transmit vapors to the soil gas probes, and the overlying fill was too saturation with water to allow soil gas collection. Because of these geological conditions, the soil gas probes were considered impractical for their intended use and eliminated from the investigation plan. Soil samples were collected from the terminus (10 feet bgs) of these borings in lieu of gas samples. Boring logs and analytical results from SB-28 through SB-30 are summarized in Table 1 and Figure 3 and the laboratory reports are included as Appendix B.

3.4 Groundwater Sampling-February 2012

During the subsurface investigation Gannett Fleming personnel located 3 of the 4 existing on-site permanent monitoring wells at the site (Figure 2). Two wells (MW-2 and MW-3) were located east of the SE UST area, and one (MW-7) was located in the North UST area. MW-15, which was the focus of LNAPL monitoring from 2002 through 2003, was not found at the location shown on earlier maps. Groundwater samples were collected from MW-2, MW-3 and MW-7 on February 8, 2012 following low flow groundwater sampling procedures. A peristaltic pump and disposable tubing was used to purged groundwater in each well through a flow through cell where a YSI analyzer was used to monitor water temperature, pH, ORP dissolved oxygen and conductivity. Once these parameters were stabilized for three consecutive readings, the tubing was disconnected from the flow through cell and groundwater samples were placed directly into laboratory supplied sample containers.

The three on-site monitoring well groundwater samples were submitted to the MDEQ Laboratory and analyzed for BTEX, MTBE, and TMBs by USEPA Solid Waste SW-846 Method 8260; polynuclear aromatic hydrocarbons (PNAs) by USEPA SW-846 Method 8270; and lead by USEPA SW-846 Method 6020. All samples were placed on ice and

delivered to the laboratory following Gannett Fleming's chain-of-custody protocol. Groundwater analytical results from these monitoring well samples are summarized in Table 3 and presented graphically on Figure 4. Copies of the laboratory reports are provided in Appendix B.

3.5 Groundwater Sampling-August 2012

On August 17, 2012, after obtaining access to conduct investigation activities at the Frisbie Moving & Storage (Frisbie) property, Gannett Fleming personnel returned to the site to conduct follow-up groundwater and LNAPL monitoring activities at the DDOT property and the off-site Frisbie property. Field staff again attempted to locate MW-15 using an electromagnetic wand to detect the steel well cover. After extensive probing and searching, MW-15 still could not be found. The presence of relatively new concrete over the area where MW-15 was supposed to be located suggests that MW-15 may have been covered or destroyed during various site modifications since 2003.

The five off-site monitoring wells installed in 2002 (MW-10, MW-11, MW-12, MW-13, and MW-14) were located in the Frisbie Moving & Storage parking lot. These five wells and the three on-site wells (MW-2, MW-3 and MW-7) were sampled on August 17, 2012, following low flow groundwater sampling procedures, as described above. A peristaltic pump or bladder pump with disposable tubing was used to purged groundwater in each well and collect the samples

The eight monitoring well groundwater samples were submitted to the MDEQ Laboratory and analyzed for BTEX, MTBE, TMBs and polynuclear aromatic hydrocarbons (PNAs) as described above. Groundwater analytical results from these monitoring well samples are summarized in Table 3 and presented graphically on Figure 4. Copies of the laboratory reports are provided in Appendix B.

3.6 LNAPL Gauging

LNAPL was not detected in any of the monitoring wells identified on the site. A separate recovery sump containing used oil was identified on site, but this sump was an integrated component of an oil-water separator skimmer recovery system. At the time of the subsurface investigation LNAPL was not observed in any of the borings drilled and it did not appear to be migrating away from the oil water separator and recovery

sump. Monitoring well MW-15, which reportedly contained 0.1-0.2 inches of free product in 2003 could not be found, and is believed to be buried or destroyed.

4.0 DISCUSSION OF ANALYTICAL RESULTS

The analytical results from the limited subsurface investigation were compared to Part 213 Tier I non-residential risk based screening levels (RBSLs) for soil and groundwater under Michigan 1994 P.A. 451, as amended. Although residential properties border the site to the south and east, the areas where contamination are present are a considerable distance from these properties, and the areas of investigation are not likely to be repurposed for residential use in the foreseeable future.

The Tier I non-residential RBSLs were used for an initial comparison during this investigation, with the understanding that these RBSLs may not be appropriate at very high concentrations where LNAPL may be present.

Soil pathways considered relevant for this site included groundwater-surface water interface protection (GSIP), soil volatilization to indoor air inhalation (SVIAI), and direct contact (DC). While not specifically a pathway, the soil saturation concentration screening levels (CSAT) were included to evaluate the potential for LNAPL to be present. It should be noted that the CSAT values are applicable only to single compound concentrations, and may not be valid where chemical mixtures are present.

Groundwater pathways considered relevant for this site included groundwater-surface water interface (GSI), volatilization to indoor air inhalation (VIAI), and groundwater contact (GDC). Drinking water is not considered relevant at this site because the entire area is serviced by municipal water and is in an area where groundwater is not considered to be in an aquifer, and hence is not a potable source.

4.1 Soil Analytical Results

Analytical data from soil samples collected during the subsurface investigation indicated 14 of 30 soil borings contain concentrations of VOCs and/or PNAs above Part 213 RBSLs for relevant pathways (Figure 3). The samples collected from SB-13(2-4) and SB-30(2-4) exceeded the GSIP, SVIAI, DC, and CSAT RBSLs. All other samples exceeded only the GSIP RBSL. Most of the samples with elevated concentrations and

levels above RBSLs were collected from the upper 2 to 6 feet of fill material, or from the shallowest part of the clay unit. The contamination appears to be distributed to shallow depths, possibly indicative of surface spills of petroleum infiltrating through cracks in the concrete or releases from shallow pipelines accumulating in the fill or on top of the clay directly below the concrete surface. One sample, SB-3(2-4), was analyzed for diesel range organics (DRO) and oil range organics (ORO). DRO results were 500,000 µg/kg (500 mg/kg) and ORO results were 3,500,000 µg/kg (3,500 mg/kg). These are relatively high values and could be indicative of remnant diesel fuel LNAPL in soil pore spaces.

4.2 Groundwater Analytical Results

Six groundwater samples were collected in January-February 2012: three were collected from soil borings (SB-5, SB-17 and SB-18) and the remaining three were collected from the on-site monitoring wells (MW-2, MW-3, and MW-7). The sample collected from SB-5 was the only groundwater sample containing any compound above an RBSL. 1,2,4-trimethylbenzene was reported at 25 µg/L, which is above the GSI RBSL. This sample also contained other compound, including 1,3,5-trimethylbenzene (3.9 µg/L), benzene (25 µg/L), ethylbenzene (12 µg/L), xylenes (17.4 µg/L), naphthalene (4 µg/L), and pyrene (1 µg/L), all at concentrations below the RBSLs. Trace concentrations of various trimethylbenzene compounds were detected in the samples collected from MW-2 and MW-3, but at levels below any RBSLs. None of the other groundwater samples contained VOCs, PNAs or metals above laboratory method detection limits or selected RBSLs.

Eight groundwater samples were collected from all on-site and off-site monitoring wells on August 17, 2012. Of these, only two contained petroleum hydrocarbon compounds above the laboratory method detection limit. The groundwater sample collected from MW-11 contained naphthalene at 9.9 µg/L and benzene at 3.5 µg/L. Both of these concentrations are below the selected RBSLs. MW-11 is an off-site well located across the property line from on-site MW-15, a well which formerly contained LNAPL. The groundwater sample collected from MW-12 contained the highest concentrations of petroleum compounds, including naphthalene at 30 µg/L, benzene at 4,500 µg/L, toluene at 11 µg/L, ethylbenzene at 330 µg/L, 1,2,3-trimethylbenzene at 39 µg/L, 1,2,4-trimethylbenzene at 200 µg/L, 1,3,5-trimethylbenzene at 33 µg/L and total xylenes at 232 µg/L. Of these, the naphthalene, benzene, ethylbenzene, 1,3,4-trimethylbenzene and



xylenes concentrations exceed the GSI RBSL. None of the other six groundwater samples collected from on-site and off-site monitoring wells contained VOCs or PNAs above laboratory method detection limits.

5.0 FEASIBILITY STUDY

5.1 Exposure Pathway Characterization

The potential sources of exposure at the facility are impacted soil and shallow groundwater. Potential transport mechanisms include volatilization and atmospheric dispersion, volatilization and closed space accumulation, soil leaching to groundwater, groundwater transport, and migration along utility corridors.

Soil or groundwater ingestion, direct contact with impacted soil or groundwater, and inhalation of volatilized constituents would be potential exposure routes. Potential receptors to the exposure routes would include construction workers, commercial utility workers, personnel working in nearby structures, and underground utilities (especially storm sewers).

5.2 Feasibility Analysis

A feasibility analysis was performed to determine the appropriate corrective action for the site. This analysis considered each option in terms of effectiveness of cleanup, duration, and cost.

5.2.1 Soil Corrective Action Alternatives

Natural Attenuation: Impacted soils could remain in-place since there is a concrete cover over all impacted areas and existing monitoring wells could be monitored on a regular basis. This alternative requires continued maintenance of the concrete and does not provide cleanup for contaminated soils detected above RBSLs along the property boundary and off-site. This alternative will not eliminate acute risks to human health and to the environment without institutional or engineering controls. Institutional controls to prevent significant changes to the land use may eventually be required and due care provisions may proscribe engineering controls to address the volatilization to indoor air inhalation pathway if it is determined to be complete. Natural attenuation is considered a viable alternative if it can be demonstrated that all relevant pathways are securely closed. The cost for this alternative is lower than other alternatives and the exposure risks to human health and the environment can be managed using institutional controls, engineering controls (e.g. indoor ventilation systems and

impermeable barriers), and monitoring (e.g. groundwater wells, soil gas points, and storm drains at the property boundaries).

Soil Excavation: Impacted soil could be excavated and removed to a disposal facility. This would require the excavation and disposal of approximately 1,000 to 2,000 cubic yards or more of soil, filling the excavated areas with clean backfill and replacing demolished concrete. The cost to conduct this alternative and replace newly installed concrete on-site and off-site is considered relatively high. The areas where soil is impacted above RBSLs are not contiguous across the site and are in areas occupied by USTs that have been closed in place, close to or under foundations, or in areas occupied by underground equipment and utilities. Excavation would be very difficult and expensive, considering that underground fuel pipes, USTs (active and closed in place), oil-water separators, storm drains, fiber-optic cables, and other utilities are in the area of soil impacts. Although this alternative would be effective and could complete remediation within a short timeframe, excavation is considered costly, impracticable, and is not recommended.

Soil Vapor Extraction/Air Sparging: Soil vapor extraction (SVE) is an alternative that can reduce the volume of petroleum hydrocarbons in the soil, and to a lesser degree, in groundwater. Vent wells would be installed in the area of impacted soil and connected to a vacuum blower that would discharge through activated carbon, a catalytic oxidizer, or other vapor treatment apparatus, before venting to the atmosphere under the provisions of an air quality permit. Separate vapor treatment systems would be required at the North UST area and the SE UST areas. The vapor collection system would require a vast network of underground piping, buildings, electrical power, and would need to be monitored and maintained on a very frequent basis.

SVE is best implemented in conjunction with air sparging or ozone sparging, where air or ozone is forced under pressure into the saturated soils. The micro-bubbles strip hydrocarbons from the saturated soils and groundwater and ideally carry the contaminant in vapor phase to the unsaturated zone where it is collected by the SVE system.

The Soil Vapor Extraction/air sparging alternative is not viable for several reasons: depth to water in the shallow fill materials is insufficient to allow high volumes of vapor from the unsaturated zone. Significant water would be pulled into the system resulting in high maintenance effort and inefficient operation. The impermeable nature of the native clays underlying shallow fill will not support air sparging, which requires a reasonable soil permeability to be effective. Therefore, this alternative is not recommended.

5.2.2 Groundwater and LNAPL Corrective Action Alternatives

Monitored Natural Attenuation: The extent of contaminated groundwater has not increased between the last sampling events in 2002-2003 and the most recent sampling events in 2012. Groundwater occurs only in the shallow fill materials to a depth of 4-6 feet and may not have a migration pathway away from the release areas. With the extent of groundwater contamination remaining stable, it is likely that natural attenuation is taking place.

However, the groundwater concentrations of hydrocarbons, even the more soluble and volatile components like benzene, have not decreased over this same time period. The consistent concentrations of dissolved phased compounds over time suggests that LNAPL is trapped in soil pore spaces near the former release locations and acting as a continuing source of dissolved phase contaminants. Groundwater contamination is prevented from spreading vertically by extensive impermeable clays and is stable horizontally due to natural attenuation and possibly geological physical constraints. Risks associated with groundwater contamination at this site are minimal, with the possible exception of the GSI pathway via storm sewers. Natural attenuation of groundwater and LNAPL is a viable alternative for this site, so long as monitoring and suitable due-care provisions are employed to detect changes in groundwater conditions and steps are taken to mitigate migration through preferential pathways. This option assumes no changes in current land use.

In-Situ Chemical Oxidation and Bioremediation: Petroleum hydrocarbons can be destroyed in place through in-situ chemical oxidation (ISCO) or by in-situ bioremediation. Both processes involve injecting mixtures of chemicals and/or nutrients into the impacted subsurface soils.

In the case of ISCO, an oxidizing compound is injected into the impacted zone to cause a Fenton's reaction to chemically oxidize and destroy hydrocarbons, reducing them to carbon dioxide, water, and other benign oxidation by-products. The concentrations of contaminants and the presence of LNAPL do not affect the effectiveness of ISCO, except in the quantity of ISCO product that would be required to oxidize higher concentrations of contaminants. Natural oxygen demand (COD, BOD, etc.) would need to be considered in planning any ISCO implementation. ISCO is toxic to organisms, and could temporarily deplete the population of soil microbes that may currently be degrading hydrocarbons. Initial applications of ISCO often cause an initial release of contaminants from an immobile state to a dissolved mobile state, and concentration rebounds are not uncommon, requiring multiple rounds of application. Because ISCO is an oxidation process, significant heat can be generated and corrosion to underground utilities can occur, depending on the strength of oxidant used.

In the case of in-situ bioremediation, nutrients and electron acceptors are injected into the subsurface, modifying the environment to stimulate growth of naturally occurring pre-existing aerobic or anaerobic bacteria capable of breaking down hydrocarbons through metabolic or co-metabolic processes. It is important to understand the current micro-environment to properly implement bioremediation and additional studies would be necessary to determine the amendments that would achieve the desired results. Areas where contaminant concentrations are high may be more anaerobic, while other areas may be in an aerobic environment. LNAPL is often toxic to some bacteria and bioremediation may be less effective where LNAPL or very high dissolved concentrations exist. Multiple applications of bio-stimulants are often necessary for best results.

Both technologies can be implemented without the installation of an extensive subsurface infrastructure. Repeat applications are possible, and usually necessary. Of the two methods, ISCO may be more practical at this site in that only the oxygen demand is a requisite factor for planning ISCO, and ISCO can be effective in both soil and groundwater. However, many of the same site conditions that limit the effective use of soil vapor extraction hinder the effective use of both ISCO and in-situ bioremediation. The widespread nature of the contaminant in isolated pockets across

the site, unknown bio-geochemical conditions at the site, and the impermeability of the native clays would make this option difficult to implement. Therefore, these alternatives are not recommended.

Groundwater / LNAPL Pump and Treat: A groundwater / LNAPL collection system could collect LNAPL and contaminated water, separate the water from LNAPL, and treat impacted groundwater by using activated carbon or other treatment alternative to remove petroleum hydrocarbons. The shallow thickness of the permeable fill would result in very limited radius of influence for any pumping system, and would necessarily have to operate at very low recovery rates. Any groundwater / LNAPL pump & treat system will be expensive to install and operate, and would require a permitted discharge to sanitary or storm water sewers. LNAPL would need to be collected as disposed by a licensed waste disposal contractor. The groundwater pump and treat alternative is not viable due to the limited thickness of the water bearing fill materials and the low hydraulic conductivity of the underlying native clays. Therefore, this alternative is not recommended for corrective action at the site.

Air/Ozone Sparging: An air or ozone sparging system for groundwater remediation strips volatile organic hydrocarbons from soil and groundwater in the saturated zone and transports the contaminants to the vadose zone where vapors are collected by an SVE system. Ozone is a strong oxidizing agent and ozone sparging has the added benefit of adding a limited ISCO process to the remediation efforts. Air/Ozone sparging is not viable due to the limited thickness of the water bearing fill materials and the low hydraulic conductivity of the underlying native clays. Therefore, this alternative is not recommended for corrective action at the site.

5.3 Feasibility Analysis Comparison Table

Corrective Action Alternative	Cost	Effectiveness	Duration
Soil Excavation	High	Good	Immediate
SVE - Air/Ozone Sparging	High	Poor	Moderate
Monitored Natural Attenuation	Low	Fair	Long-Term
GW/LNAPL Pump & Treat	High	Poor	Long-Term
ISCO / Bioremediation	Moderate	Poor	Short-Term

The selected corrective action alternative is Monitored Natural Attenuation with appropriate due care provisions. Given the current land use and the land use in the foreseeable future, and the stable and immobile nature of the soil and groundwater contaminants, this alternative is the most appropriate choice. Monitored natural attenuation is cost effective and can be implemented without immediate concerns of unacceptable risks to human health and the environment. Due-care requirements must be emplaced for this alternative to be protective. These may involve some additional investigation to determine whether storm water sewers in contact with contaminants pose a GSI risk, and to evaluate indoor air inhalation risks associated with residual soils. Because the garage already uses an indoor ventilation system in compliance with OSHA and MIOSHA worker safety regulations, there may be no risks to site workers from volatilization of contaminants from the subsurface. If monitoring shows that site conditions change or if exposure risks are shown to be higher than anticipated, excavation would be the best fallback alternative.

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-1 (4-6)	SB-1 (10-12)	SB-2 (4-6)	SB-2 (14--16)	SB-3 (2-4)	SB-3 (8-10)						
					1/30/2012	1/30/2012	1/30/2012	1/31/2012	1/30/2012	1/30/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012	2/2/2012	2/2/2012	2/2/2012	2/1/2012	2/2/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL		
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,300	64	< 64	64	< 63	63	< 62	62	170	64	< 60	60
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	2,200	64	< 64	64	< 63	63	< 62	62	540	64	< 60	60
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	580	64	< 64	64	< 63	63	< 62	62	84	64	< 60	60
Benzene	4,000	8,400	4.0E+5	4.0E+5	310	64	< 64	64	< 63	63	< 62	62	77	64	< 60	60
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	470	64	< 64	64	< 63	63	< 62	62	1,000	64	< 60	60
m & p - Xylene	NPC	NPC	NPC	NPC	940	130	< 130	130	< 130	130	< 120	120	600	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 64	64	< 64	64	< 63	63	< 62	62	< 64	64	< 60	60
o - Xylene	NPC	NPC	NPC	NPC	270	64	< 64	64	< 63	63	< 62	62	170	64	< 60	60
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	230	64	< 64	64	< 63	63	< 62	62	180	64	< 60	60
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	1,210	194	< 194	194	< 193	193	< 182	182	770	194	< 180	180
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/17/2012	2/17/2012	2/17/2012	2/17/2012	2/17/2012	2/17/2012						
Analytical Method No.					EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 560	560	< 570	570	< 570	570	< 2,900	2,900	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	230	3,300	1,200	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	< 1,200	1,200	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	230	5,700	1,200	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 220	220	< 230	230	< 230	230	12,000	1,200	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	11,000	2,300	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	14,000	2,300	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	460	< 460	460	6,500	2,300	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 450	460	< 460	460	4,200	2,300	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	12,000	1,200	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	< 2,300	2,300	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	190 (T)	230	< 220	220	< 230	230	< 230	230	28,000	1,200	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 220	220	< 230	230	< 230	230	4,100	1,200	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	6,400	2,300	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	420	230	< 220	220	< 230	230	< 230	230	1,400	1,200	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	19,000	1,200	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	230	230	< 220	220	< 230	230	< 230	230	24,000	1,200	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/8/2012	2/8/2012	2/8/2012	2/8/2012	Various	2/8/2012						
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	Various	EPA 6020						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	12	1	5.9	1	6.5	1	6.2	1	50	1	6.8	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	500,000	29,000	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	3,500,000	120,000	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-4 (6-8)		SB-4 (14-16)		SB-5 (10-12)		SB-5 (16-18)		SB-6 (6-8)		SB-6 (14-16)	
					1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/2/2012		2/2/2012		2/6/2012		2/2/2012		2/2/2012		2/2/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	1,300	66	< 61	61	< 62	62	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 61	61	< 65	65	5,200	66	< 61	61	< 62	62	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 61	61	< 65	65	550	66	< 61	61	< 62	62	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 61	61	< 65	65	230	66	< 61	61	< 62	62	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 61	61	< 65	65	1,600	66	< 61	61	< 62	62	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 130	130	1,400	130	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	580	66	< 61	61	< 62	62	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 181	181	< 195	195	1,980	196	< 181	181	< 182	182	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/17/2012		2/17/2012		2/17/2012		2/20/2012		2/20/2012		2/20/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	< 1,500	1,500	< 570	570	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	1,700	590	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	5.8	1	6.1	1	12	1	5.6	1	5.5	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-7 (4-6)		SB-7 (12-14)		SB-8 (6-8)		SB-8 (12-14)		SB-9 (2-4)		SB-9 (12-14)	
					1/30/2012		1/30/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012		2/2/2012		2/4/2012		2/6/2012		2/9/2012		2/6/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,400	65	< 61	61	< 62	62	< 64	64	8,900	490	< 65	65
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	1,100	65	< 61	61	< 62	62	< 64	64	18,000	490	< 65	65
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	810	65	< 61	61	< 62	62	< 64	64	7,300	490	< 65	65
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	1,200	65	< 61	61	< 62	62	< 64	64	4,400	490	< 65	65
m & p - Xylene	NPC	NPC	NPC	NPC	350	130	< 120	120	< 120	120	< 130	130	5,200	980	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
o - Xylene	NPC	NPC	NPC	NPC	< 65	65	< 61	61	< 62	62	< 64	64	2,500	490	< 65	65
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 415	195	< 181	181	< 182	182	< 194	194	7,700	1,470	< 195	195
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/20/2012		2/20/2012		2/16/2012		2/16/2012		2/16/2012		2/16/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8270		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	< 570	570	< 570	570	3,200	2,900	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 1,100	1,100	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 1,100	1,100	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	910 (T)	1,100	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 230	230	1,600	1,100	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	2,100 (T)	2,300	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	1,300	1,100	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,200	1,100	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	930 (T)	1,100	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	430	230	< 230	230	< 230	230	< 230	230	4,100	1,100	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,400	1,100	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,300	1,100	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/8/2012		2/2/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.0	1	6.3	1	6.6	1	7.9	1	28	1	6.8	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-10 (6-8)	SB-10 (12-14)	SB-11 (4-6)	SB-11 (12-14)	SB-12 (4-6)	SB-12 (12-14)						
					1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012	2/6/2012	2/6/2012	2/6/2012	2/8/2012	2/8/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL		
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
m & p - Xylene	NPC	NPC	NPC	NPC	< 140	140	< 130	130	< 130	130	< 120	120	< 120	120	< 140	140
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
o - Xylene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 210	210	< 196	196	< 194	194	< 182	182	< 181	181	< 209	209
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/16/2012	2/16/2012	2/16/2012	2/23/2012	2/23/2012	2/23/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270	EPA Method 8270						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E=6	2.6E+7	NA	< 590	590	< 570	570	< 570	570	< 570	570	< 570	570	< 560	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/13/2012	2/13/2012	2/13/2012	2/8/2012	2/8/2012	2/8/2012						
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	8.1	1	8.6	1	7.6	1	6.6	1	6.9	1	6.5	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-13 (2-4)		SB-13 (12-14)		SB-14 (0-2)		SB-14 (12-14)		SB-15 (2-4)		SB-15 (16-18)	
					1/31/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/8/2012		2/8/2012		2/9/2012		2/7/2012		2/7/2012		2/7/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	29,000	2,600	65	65	3,500	470	< 62	62	< 62	62	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	130,000	2,600	280	65	7,500	470	< 62	62	< 62	62	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	41,000	2,600	95	65	2,700	470	< 62	62	< 62	62	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 2,600	2,600	< 65	65	< 470	470	190	62	< 62	62	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	18,000	2,600	< 65	65	< 470	470	< 62	62	< 62	62	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	78,000	5,200	140	130	2,000	950	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 2,600	2,600	< 65	65	< 470	470	< 62	62	< 62	62	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	32,000	2,600	< 65	65	890	470	< 62	62	< 62	62	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	44,000	2,600	90	65	< 470	470	< 62	62	< 62	62	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	110,000	7,800	< 205	195	2,890	1,420	< 182	182	< 182	182	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/23/2012		2/23/2012		2/24/2012		2/24/2012		2/24/2012		2/24/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	13,000	2,800	< 570	570	5,700	280	< 570	570	< 290	290	< 570	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	110	110	< 230	230	330	110	< 230	230	< 110	110	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 110	110	< 230	230	< 110	110	< 230	230	< 110	110	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 110	110	< 230	230	230	110	< 230	230	< 110	110	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 110	110	< 230	230	420	110	< 230	230	< 110	110	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 230	230	< 460	460	370	220	< 460	460	< 230	230	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 230	230	< 460	460	480	220	< 460	460	< 230	230	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 230	230	< 460	460	240	220	< 460	460	< 230	230	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230	< 460	460	< 220	220	< 460	460	< 230	230	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 110	110	< 230	230	430	110	< 230	230	< 110	110	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 230	230	< 460	460	< 220	220	< 460	460	< 230	230	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	170	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	150	110	< 230	230	460	110	< 230	230	< 110	110	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 230	230	< 460	460	280	220	< 460	460	< 230	230	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	7,500	110	< 230	230	1,300	110	< 230	230	< 110	110	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	220	110	< 230	230	1,100	110	< 230	230	< 110	110	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	150	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	2.3	1	6.7	1	12	1	6.6	1	1.8	1	6.4	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-16 (4-6)		SB-16 (17-19)		SB-17 (4-6)		SB-17 (12-14)		SB-18 (4-6)		SB-18 (13-15)	
					2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/1/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/9/2012		2/7/2012		2/7/2012		2/7/2012		2/7/2012		2/7/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	1,900	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 2,200	2,200	< 140	140	< 130	130	< 130	130	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 3,300	3,300	< 212	212	< 195	195	< 194	194	< 182	182	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/24/2012		2/24/2012		2/24/2012		2/24/2012		2/24/2012		2/24/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	51,000	15,000	< 3,000	3,000	< 290	290	< 570	570	< 290	290	< 560	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 610	610	3,900	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 1,200	1,200	3,700	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 1,200	1,200	5,000	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 1,200	1,200	2,200	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 1,200	1,200	< 2,400	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 610	610	3,500	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	870	610	7,400	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	1,200	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 1,200	1,200	2,800	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	670	610	2,800	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	870	610	6,800	1,200	< 120	120	< 230	230	< 110	110	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/9/2012		2/7/2012		2/7/2012		2/7/2012		2/14/2012		2/14/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	35	1	13	1	2.4	1	6.3	1	2	1	5.5	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-19 (3-5)	SB-19 (10-12)	SB-20 (3-5)	SB-20 (10-12)	SB-21 (4-6)	SB-21 (10-12)						
					2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/7/2012	2/7/2012	2/9/2012	2/7/2012	2/9/2012	2/9/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	1,700	500	< 60	60	< 61	61	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 67	67	< 64	64	2,900	500	< 60	60	< 61	61	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 67	67	< 64	64	1,600	500	< 60	60	< 61	61	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 67	67	< 64	64	610	500	< 60	60	< 61	61	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 67	67	< 64	64	1,800	500	< 60	60	< 61	61	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	< 1,000	1,000	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 197	197	< 194	194	< 1,500	1,500	< 180	180	< 181	181	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/24/2012	2/24/2012	2/24/2012	2/24/2012	2/16/2012	2/16/2012						
Analytical Method No.					EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E=6	2.6E+7	NA	< 590	590	< 570	570	11,000	580	< 560	560	< 570	570	< 560	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	240	230	< 230	230	460	230	< 220	220	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	3,400	230	< 220	220	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	300	230	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/14/2012	2/14/2012	2/14/2012	2/14/2012	2/14/2012	2/14/2012						
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020						
Collection Method					NA	NA	NA	NA	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.4	1	5.9	1	7.5	1	5.3	1	5.9	1	5.9	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-22 (4-6)		SB-22 (10-12)		SB-23 (4-6)		SB-23 (12-14)		SB-24 (4-6)		SB-24 (10-12)	
					2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/9/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	3,500	67	120	63	26,000	950	< 59	59	2,600	66	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	15,000	270	460	63	56,000	950	< 59	59	11,000	66	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	3,500	67	120	63	18,000	950	< 59	59	3,200	66	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	2,400	67	< 63	63	< 950	950	< 59	59	470	66	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	2,500	67	81	63	6,000	950	< 59	59	1,000	66	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	3,500	130	< 130	130	23,000	1,900	< 120	120	3,900	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 63	63	13,000	950	< 59	59	< 66	66	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 3,567	197	< 193	193	36,000	1,850	< 179	179	< 3966	196	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/16/2012		2/16/2012		2/20/2012		2/16/2012		2/16/2012		2/16/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 570	580	13,000 (T)	14,000	< 550	550	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	2,800	230	< 230	230	6,400	5,600	< 220	220	1,200	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	7.2	1	6.3	1	3.1	1	4.3	1	6.2	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-25 (4-6)		SB-25 (10-12)		SB-26 (2-4)		SB-26 (12-14)		SB-27 (4-6)		SB-27 (14-16)	
					2/2/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	2/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/9/2012		2/10/2012			
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	340	61	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 62	62	71	61	< 60	60	< 63	63	380	61	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 62	62	< 61	61	< 60	60	< 63	63	440	61	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 62	62	< 61	61	< 61	61	< 63	63	350	61	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 120	120	< 120	120	< 130	130	350	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	230	61	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 182	182	< 181	181	< 180	180	< 193	193	580	181	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed	2/16/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/19/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E=6	2.6E+7	NA	< 570	570	< 570	570	1,400	570	< 560	560	2800	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	410	230	< 230	230	1,100	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed	2/14/2012		2/14/2012		2/10/2012		2/14/2012		2/9/2012		2/14/2012		2/9/2012		2/14/2012	
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.7	1	5.7	1	5.4	1	4.1	1	6.4	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatle organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-28 (6-7)		SB-29 (9-10)		SB-30 (2-4)		SB-30 (9-10)	
					2/2/2012		2/2/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)												
Date Analyzed					2/14/2012		2/10/2012		2/10/2012		2/10/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)												
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	360	65	< 65	65	98,000	5,300	< 63	63
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	480	65	< 65	65	400,000	5,300	< 63	63
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	160	65	< 65	65	120,000	5,300	< 63	63
Benzene	4,000	8,400	4.0E+5	4.0E+5	65	65	< 65	65	5,500	5,300	< 63	63
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 65	65	< 65	65	86,000	5,300	< 63	63
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	290,000	11,000	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65	< 65	65	< 5,300	5,300	< 63	63
o - Xylene	NPC	NPC	NPC	NPC	< 65	65	< 65	65	32,000	5,300	< 63	63
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65	< 65	65	< 5,300	5,300	< 63	63
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 195	195	< 195	195	322,000	16,300	< 193	193
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)												
Date Analyzed					2/21/2012		2/19/2012		2/21/2012		2/19/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)												
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 14,000	14,000	< 570	570	18,000	3,000	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 5,700	5,700	< 230	230	15,000	1,200	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
INORGANICS AND METALS												
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/10/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)												
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	15	1	5.7	1	6.2	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL BORING GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria &RBSLs	SB-5		SB-17		SB-18	
				1/30/2012		2/1/2012		2/1/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)									
Date Analyzed				2/2/2012		2/8/2012		2/7/2012	
Analytical Method No.				EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	8.9	1	< 1	1	< 1	1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	25	1	< 1	1	< 1	1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	3.9	1	< 1	1	< 1	1
Benzene	200	35,000	11,000	25	1	< 1	1	< 1	1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	12	1	< 1	1	< 1	1
m & p - Xylene	NPC	NPC	NPC	12	2	< 2	2	< 2	2
o - Xylene	NPC	NPC	NPC	5.4	1	< 1	1	< 1	1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	17.4	3	< 3	3	< 3	3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)									
Date Analyzed				2/8/2012		2/13/2012		2/13/2012	
Analytical Method No.				EPA Method 8270		EPA Method 8270		EPA Method 8260	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
Fluoranthene	1.6	210 (S)	210 (S)	0.9 (T)	1	< 1	1	< 1	1
Naphthalene	11	31,000 (S)	31,000 (S)	4	1	< 1	1	< 1	1
Pyrene	ID	140 (S)	140 (S)	1	1	< 1	1	< 1	1
INORGANICS AND METALS									
Date Analyzed				2/7/2012		2/8/2012			
Analytical Method No.				6020/200.8		6020/200.8		6020/200.8	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	ID	86	1	1.5	1	1.5	1

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

T = Reported value is less than the reporting limit (RL). Result is estimated.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 3
MONITORING WELL GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	MW-2	MW-2	MW-3	MW-3	MW-3 (DUP-1)	MW-7	MW-7	
Date Collected				2/8/2012	8/17/2012	2/8/2012	8/17/2012	8/17/2012	2/8/2012	8/17/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)											
Date Analyzed				2/13/2012	8/25/2012	2/13/2012	8/25/2012	8/25/2012	2/13/2012	8/25/2012	
Analytical Method No.				EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	
Collection Method				GS	GS	GS	GS	GS	GS	GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	1.2	1	< 1	1	< 1	1	< 1	1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	2.5	1	< 1	1	1.8	1	< 1	1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	< 1	1	< 1	1	< 1	1	< 1	1
Benzene	200	35,000	11,000	< 1	1	< 1	1	< 1	1	< 1	1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	< 1	1	< 1	1	< 1	1	< 1	1
m & p - Xylene	NPC	NPC	NPC	< 2	2	< 2	2	< 2	2	< 2	2
o - Xylene	NPC	NPC	NPC	< 1	1	< 1	1	< 1	1	< 1	1
Toluene	270	5.3E+5 (S)	5.3E+5 (S)	< 1	1	< 1	1	< 1	1	< 1	1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	< 3	3	< 3	3	< 3	3	< 3	3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)											
Date Analyzed				2/23/2012	8/27/2012	2/23/2012	8/27/2012	8/27/2012	2/22/2012	8/27/2012	
Analytical Method No.				EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	
Collection Method				GS	GS	GS	GS	GS	GS	GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Naphthalene	11	31,000 (S)	31,000 (S)	< 1	1	< 1	1	< 1	1	< 1	1
INORGANICS AND METALS											
Date Analyzed				2/21/2012	NS	2/21/2012	NS	NS	2/21/2012	NS	
Analytical Method No.				6020/200.8	NS	6020/200.8	NS	NS	6020/200.8	NS	
Collection Method				GS	NS	GS	NS	NS	GS	NS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	NA	NA	Conc.	RL	NA	NA
Lead - Total	(G,X)	NLV	ID	16	1	NS	NS	1	1	NS	NS

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 T = Reported value is less than the reporting limit (RL). Result is estimated
Bolded indicates concentration exceeds laboratory method detection limit
Shaded indicates concentration exceeds one or more applicable RBSL
 Analytical results are only shown for analytes that were detected.

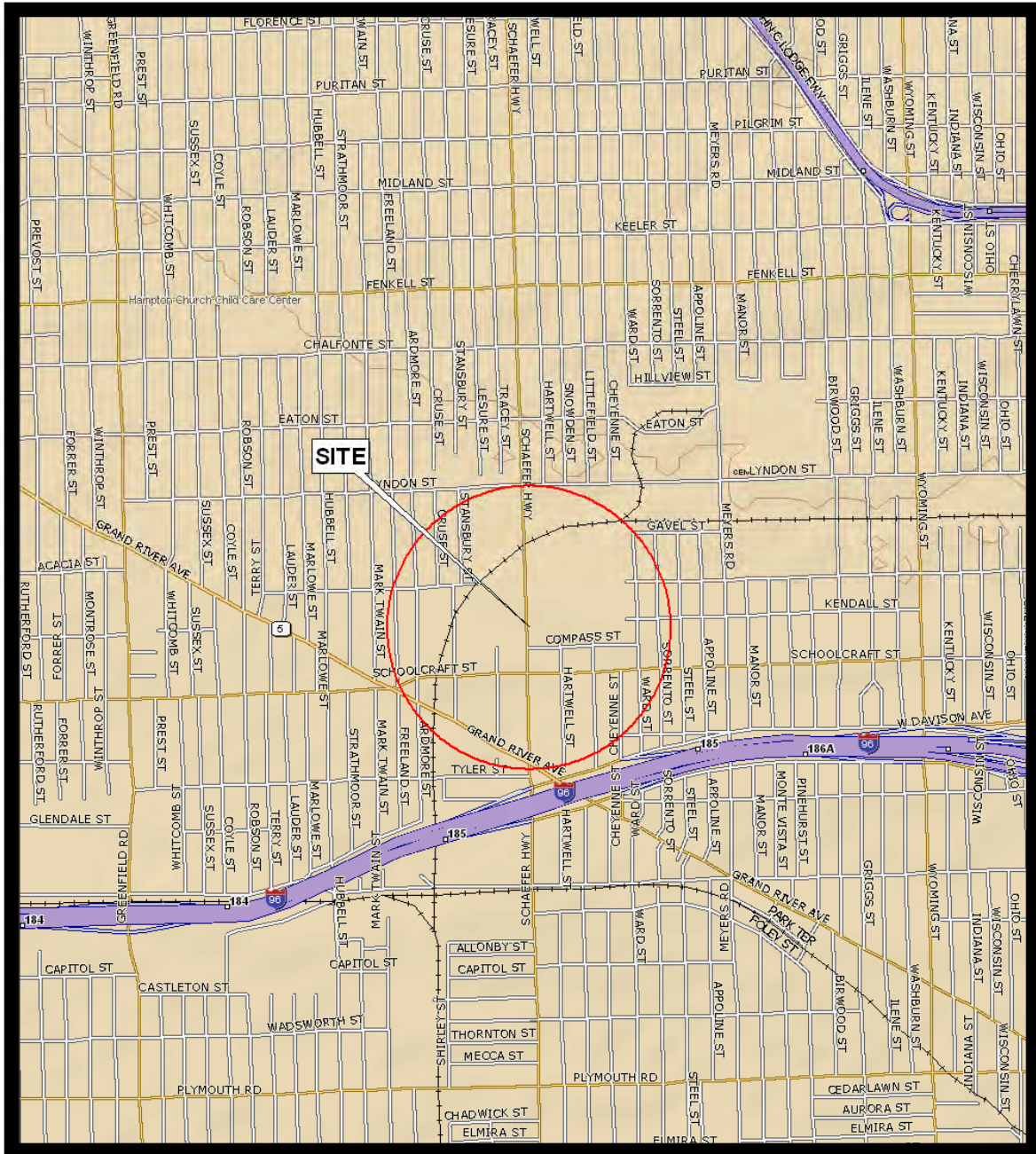
MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 3
MONITORING WELL GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	MW-10	MW-11	MW-12	MW-13	MW-14	TB-1
Date Collected				8/17/2012	8/17/2012	8/17/2012	8/17/2012	8/17/2012	8/24/2012
VOLATILE ORGANIC COMPOUNDS (VOCs)									
Date Analyzed				8/27/2012	8/28/2012	8/25/2012	8/25/2012	8/25/2012	8/24/2012
Analytical Method No.				EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260
Collection Method				GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	< 1	1	< 1	1	39	1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	< 1	1	< 1	1	200	1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	< 1	1	< 1	1	33	1
Benzene	200	35,000	11,000	< 1	1	3.5	1	4,500	1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	< 1	1	< 1	1	330	1
m & p - Xylene	NPC	NPC	NPC	< 2	2	< 2	2	220	2
o - Xylene	NPC	NPC	NPC	< 1	1	< 1	1	1.6	1
Toluene	270	5.3E+5 (S)	5.3E+5 (S)	< 1	1	< 1	1	11	1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	< 3	3	< 3	3	232	3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)									
Date Analyzed				8/27/2012	8/25/2012	8/27/2012	8/27/2012	8/27/2012	NS
Analytical Method No.				EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	NS
Collection Method				GS	GS	GS	GS	GS	NS
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
Naphthalene	11	31,000 (S)	31,000 (S)	< 1	1	9.9	1	30	1
INORGANICS AND METALS									
Date Analyzed				NS	NS	NS	NS	NS	NS
Analytical Method No.				NS	NS	NS	NS	NS	NS
Collection Method				NS	NS	NS	NS	NS	NS
TARGET COMPOUNDS (ug/L)				NA	NA	NA	NA	NA	NA
Lead - Total	(G,X)	NLV	ID	NS	NS	NS	NS	NS	NS

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 T = Reported value is less than the reporting limit (RL). Result is estimated
Bolded indicates concentration exceeds laboratory method detection limit
Shaded indicates concentration exceeds one or more applicable RBSL
 Analytical results are only shown for analytes that were detected.

FIGURES



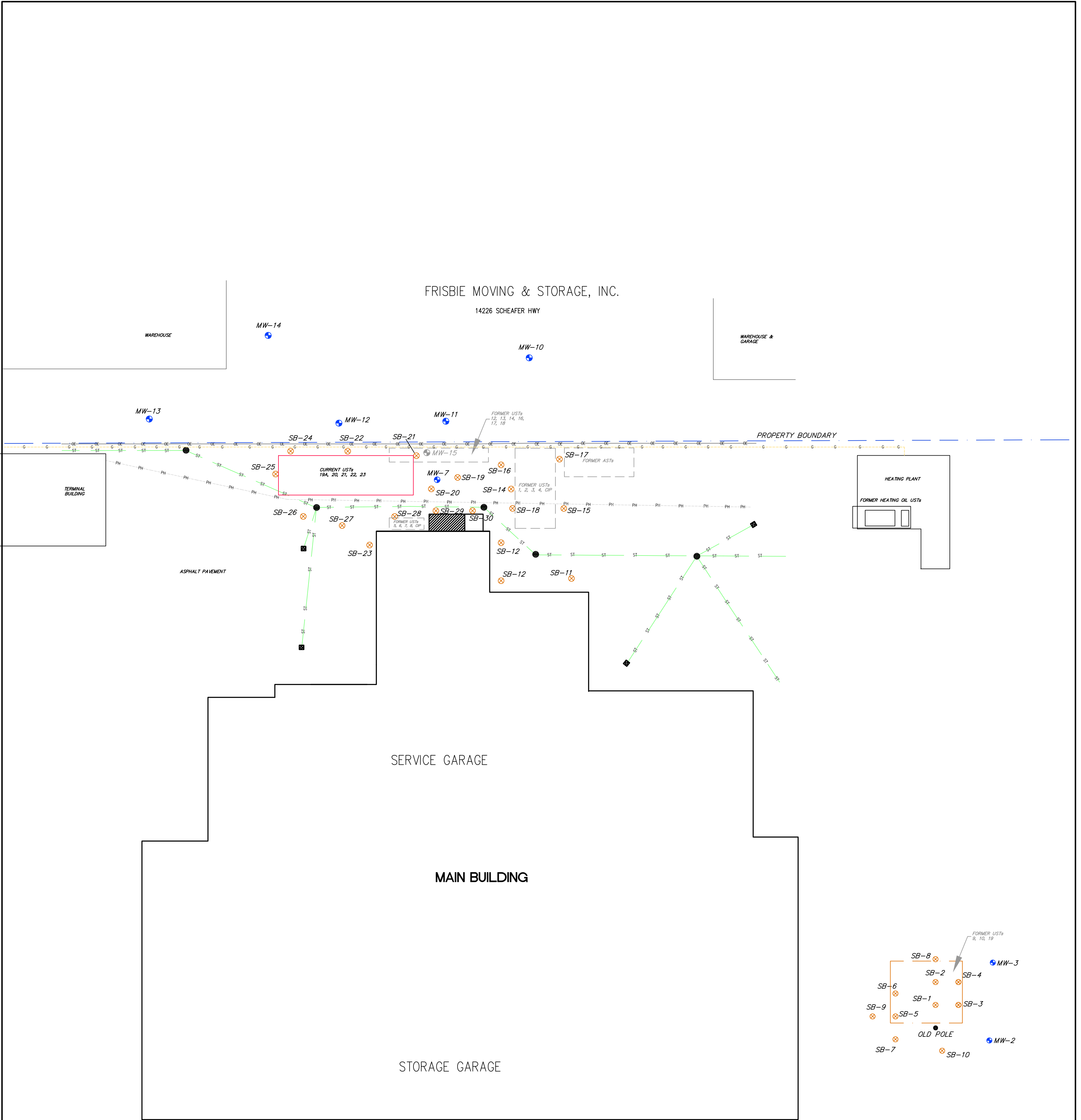
SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN



SITE LOCATION MAP
MDEQ-RD
CITY OF DETROIT – 14044 SCHAEFER
DETROIT, MICHIGAN





LEGEND

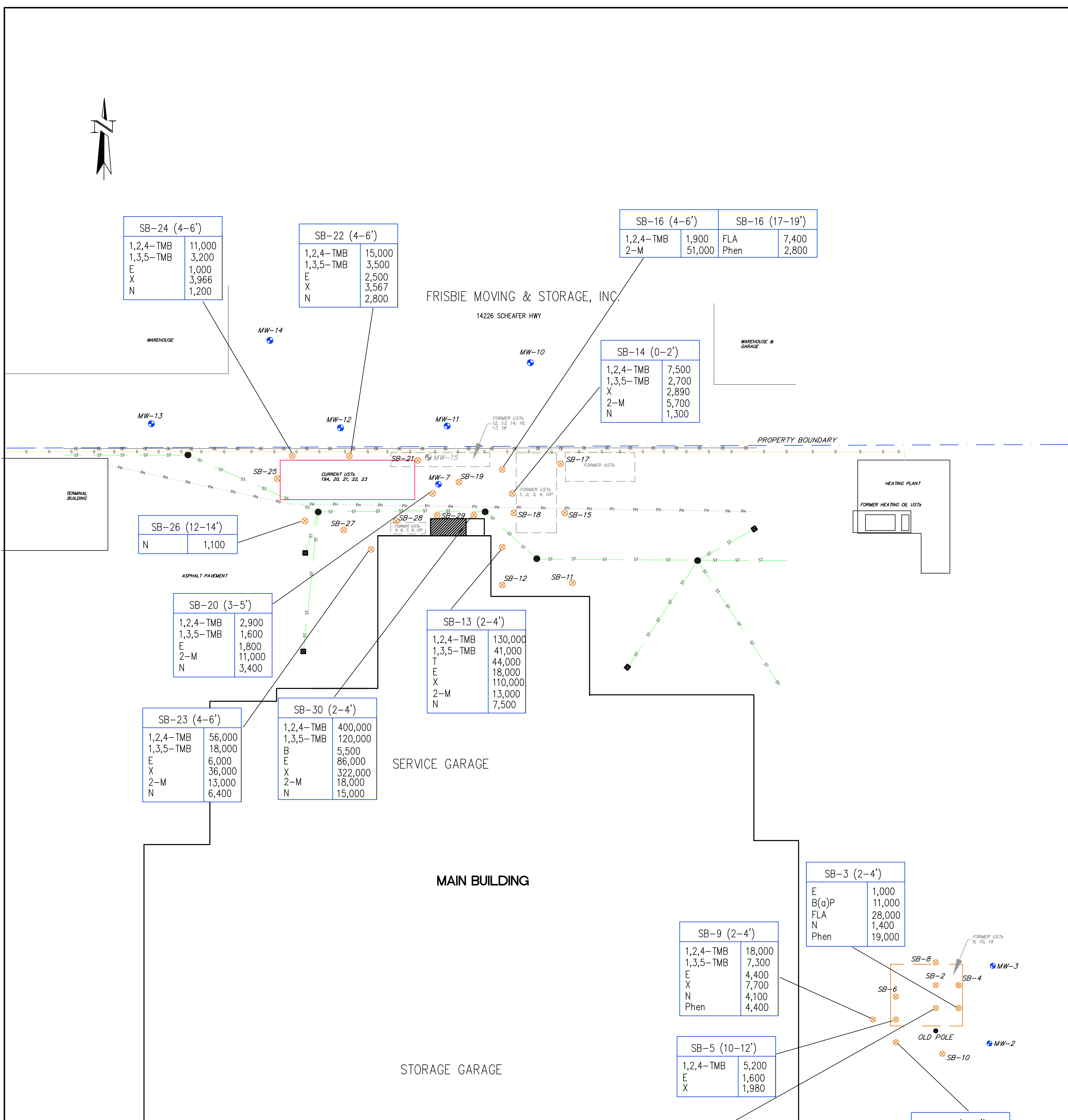
- Monitoring Well Location
- Monitoring Well Location Not Found
- ⊗ Soil Boring Location
- — — — — Overhead Electric
- — — — — Buried Communication Line
- — — — — Storm Sewer
- — — — — Underground Gas Line
- Catch Basin
- Storm Sewer Manhole
- CIP Closed In Place

This Figure Was Adapted From The Traverse Group Drawing, Dated 11/05/01, Numbered A0110013/RM99999-7.

This Drawing Is For Reference Only And Is Neither Complete Nor To Exact Scale,

DRAWN S.J.G. DESIGNED JOB No. 54910 DESIGN APPROVED DATE AUG. 2012	SCALE 1=50	<p>Gannett Fleming HARRISBURG, PENNSYLVANIA PLYMOUTH, MICHIGAN</p>	PROJECT CITY OF DETROIT (DDOT) MDEQ-RD DETROIT, MICHIGAN	TITLE SOIL BORING AND MONITORING WELL LOCATION MAP	SHEET No. 2
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54910P02.DWG 11/05/01



NOTES

1,2,4-TMB = 1,2,4-TRIMETHYLBENZENE
 1,3,5-TMB = 1,3,5-TRIMETHYLBENZENE
 B = BENZENE
 T = TOLUENE
 E = ETHYLBENZENE
 X = XYLENES
 2-M = 2-METHYLNAPHTHALENE
 N = NAPHTHALENE (8260)
 FLA = FLUORANTHRENE
 Phen = PHENANTHRENE
 B(a)P = BENZO(a)PYRENE

All Soil Concentrations Are Expressed In Units Of ug/kg.
 Values Shown Are Those In Exceedance Of Applicable Part 213 Tier 1 Risk Based Screening Levels (RBSLs).

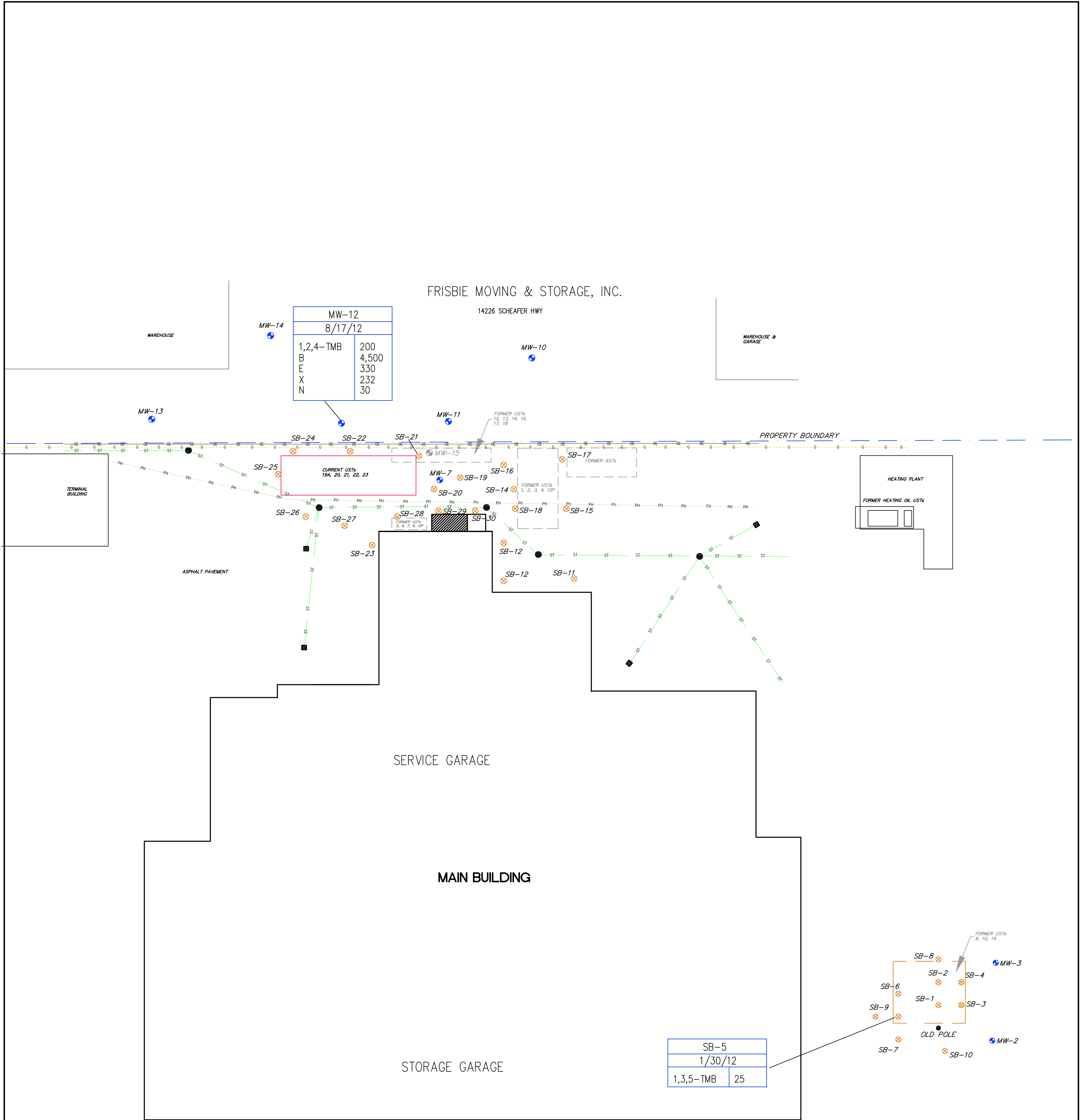
Samples Were Collected In March 2012.

This Figure Was Adapted From The Traverse Group Drawing, Dated 11/05/01, Numbered A0110013/RM99999-7.

This Drawing Is For Reference Only And Is Neither Complete Nor To Exact Scale.

- LEGEND**
- Monitoring Well Location
 - Monitoring Well Location Not Found
 - Soil Boring Location
 - Overhead Electric
 - Buried Communication Line
 - Storm Sewer
 - Underground Gas Line
 - Catch Basin
 - Storm Sewer Manhole
 - CIP Closed In Place

54101033 082412 PLOT SCALE -40	DRAWN SJC SCALE 1=50	 Gannett Fleming HARRISBURG, PENNSYLVANIA PLYMOUTH, MICHIGAN	PROJECT CITY OF DETROIT (DDOT) MDEQ-RD DETROIT, MICHIGAN	TITLE SOIL ANALYTICAL EXCEEDANCES MAP	SHEET No. 3	
	DESIGNED JOB No. 54910		APPROVED DATE AUG.2012			



NOTES

1,2,4-TMB = 1,2,4-TRIMETHYLBENZENE
 1,3,5-TMB = 1,3,5-TRIMETHYLBENZENE
 B = BENZENE
 E = ETHYLBENZENE
 X = XYLENES
 N = NAPHTHALENE (8260)

All Groundwater Concentrations Are Expressed In Units Of ug/L.
 Values Shown Are Those In Exceedance Of Applicable Part 213 Tier 1 Risk Based Screening Levels (RBSLs).

This Figure Was Adapted From The Traverse Group Drawing, Dated 11/05/01, Numbered A0110013/RM99999-7.

This Drawing Is For Reference Only And Is Neither Complete Nor To Exact Scale,

- LEGEND**
- Monitoring Well Location
 - Monitoring Well Location Not Found
 - Soil Boring Location
 - Overhead Electric
 - Buried Communication Line
 - Storm Sewer
 - Underground Gas Line
 - Catch Basin
 - Storm Sewer Manhole
 - Closed In Place

DRAWN	SCALE
SJG	1=50
DESIGNED	JOB No.
DESIGN	54910
APPROVED	DATE
APPROVED	AUG.2012



PROJECT
 CITY OF DETROIT (DDOT)
 MDEQ-RD
 DETROIT, MICHIGAN

TITLE
 GROUNDWATER ANALYTICAL EXCEEDANCES MAP

SHEET No.
4

APPENDIX A
Boring Logs



LOG OF SOIL BORING SB- 1

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/30/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: N 42° 23' 23.4"
Drilling Method	: Track mounted	Easting	: W 83° 10' 31.2"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Brown, POORLY GRADED SAND, trace gravel, medium grained sand.		Moist	
1						6.0		
2		0-5	50%	SP			Wet	
3						2.1		
4					Grey, WELL GRADED SAND, with some gravel.			
5	1			SW		48.1	Moist	
6					Brown CLAY, trace fine sand, trace gravel, stiff, low - medium plasticity			
7		5-10	90%			2.8		
8								
9						0.9		
10				CL				
11	2					9.6		
12		10-15	100%					
13						0.3		
14								
15						3.8		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-1 (4-6)
 Sample 2: SB-1 (10-12)

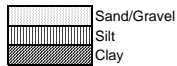


LOG OF SOIL BORING SB- 1
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Brown CLAY, trace fine sand, trace gravel, stiff, low - medium plasticity	3.8	Moist	
16				CL				
17		15-20	60%			2.9		
18					Grey, high plasticity			
19				CH		3.3		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-1 (4-6)
Sample 2: SB-1 (10-12)



LOG OF SOIL BORING SB- 2

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 1/30/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : N 42° 23' 23.6"	
Drilling Method : Track mounted	Easting : W 83° 10' 31.2"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone.			
1					Grey, CLAY, medium plasticity, little gravel, trace fine to coarse sand.	1.2	Moist	[Hatched Pattern]
2		0-5	60%	CL				
3						2.6		
4								
5	1				Brown CLAY, stiff, little fine to coarse sand, low plasticity, trace gravel.	2.2		
6								
7		5-10	100%			2.5		
8								
9						1.8		
10								
11						3.0		
12		10-15	75%					
13						11.8		
14	2				Medium plasticity			
15						1.2		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-2 (4-6)
 Sample 2: SB-2 (14-16)

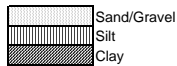


LOG OF SOIL BORING SB-2
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15	2	15-20	60%	CH	Brown CLAY, stiff, little fine to coarse sand, medium plasticity, trace gravel.	1.2	Moist	
16								
17					9.5			
18					High plasticity, grey			
19						4.8		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-2 (4-6)
Sample 2: SB-2 (14-16)



LOG OF SOIL BORING SB-3

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 1/30/2012	Depth of Boring : 15 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 23.6"	
Drilling Method : Track mounted	Easting : 83° 10' 31.9"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone	112		GRAPHIC
1					Gray, CLAY, trace sand, trace gravel, soft.		Moist	
2	1	0-5	80%			153		
3					CH		Wet	
4						48.0		
5					Brown, CLAY, stiff, low plasticity, trace gravel, with brown mottles.		Moist	
6						10.2		
7		5-10	90%		CL			
8	2					3.6		
9					CL			
10						4.8		
11					CL			
12		10-15	100%			3.6		
13					CL			
14						1.4		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-3 (2-4)
 Sample 2: SB-3 (8-10)



LOG OF SOIL BORING SB-4

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 1/30/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 23.4"	
Drilling Method : Track mounted	Easting : 83° 10' 30.9"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone		Dry	
1						5.3		
2		0-5	80%	CH	Grey, CLAY, high plasticity, trace gravel		Moist	
3	SW			Brown, WELL GRADED SAND, trace gravel	1.8	Wet		
4								
5					Gray, CLAY, stiff, low plasticity, trace gravel	2.6	Moist	
6								
7	1	5-10	80%			7.4		
8								
9						2.2		
10				CL				
11						1.6		
12		10-15	100%					
13								3.4
14	2				With brown mottles			
15						1.4		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-4 (6-8)
 Sample 2: SB-4 (14-16)



LOG OF SOIL BORING SB-5

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: Temp Well
Drilling Date	: 1/30/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 23.3"
Drilling Method	: Track mounted	Easting	: 83° 10' 31.6"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone		Dry	
1					Brown WELL GRADED SAND, medium grained, trace gravel	1.8	Moist	
2		0-5	80%					
3						1.9	Wet	
4								
5						1.5		
6				SW				
7						3.6		
8		5-10	80%					
9								
10								
11	1							
12				CH-SW	Gray CLAY WITH WELL GRADED SAND, sand content decreasing with depth to clay at 13'	102		
13		10-15	80%	GW	Coarse gravel, trace fines	21.2		
14				CL	Gray CLAY, stiff, low plasticity, trace gravel		Moist	
15						5.6		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-5 (10-12)
 Sample 2: SB-5 (16-18)

Temp well installed, screened from 8'-13' - Groundwater sample SB-5 collected



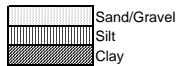
LOG OF SOIL BORING SB-5
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15	2	15-20	100%		Gray CLAY, stiff, low plasticity, trace gravel	5.6	Moist	
16				CL				
17					Gray CLAY, high plasticity, trace gravel, brown mottles.	2.7		
18				CH		3.1		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-5 (10-12)
Sample 2: SB-5 (16-18)



LOG OF SOIL BORING SB-6

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/30/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 23.5"
Drilling Method	: Track mounted	Easting	: 83° 10' 31.7"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone		Moist	
1					Brown CLAY WITH SAND, medium plasticity, sand content decreasing with depth	2.6	Wet	
2		0-5	60%					
3					Brown CLAY, stiff, low plasticity, with grey mottles	2.5	Moist	
4								
5	1					2.0		
6								
7		5-10	70%			2.5		
8								
9						4.1		
10					Trace gravel			
11						8.1		
12					No mottles			
13		10-15	100%			9.4		
14	2							
15						22.4		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-6 (6-8)
 Sample 2: SB-6 (14-16)

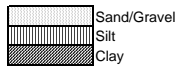


LOG OF SOIL BORING SB-6
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15	2				Gray CLAY, high plasticity, trace gravel	22.4	Moist	
16								
17		15-20	50%	CH		4.1		
18								
19						1.7		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-6 (6-8)
Sample 2: SB-6 (14-16)



LOG OF SOIL BORING SB-7
PAGE 1 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/30/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 23.1"
Drilling Method	: Track mounted	Easting	: 83° 10' 31.6"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone	185	Dry	
1								
2		0-5	80%	CL-SW	Black CLAY WITH SAND, low plasticity trace gravel, fine to medium grained sand		Wet	
3					Brown CLAY, stiff, low plasticity, trace gravel	20.2	Moist	
4								
5	1					745		
6								
7		5-10	100%			5.1		
8								
9				CL		6.2		
10								
11						2.4		
12								
13	2	10-15	100%			3.2		
14								
15						3.9		

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-7 (4-6)
Sample 2: SB-7 (12-14)

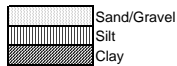


LOG OF SOIL BORING SB-7
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Brown CLAY, stiff, low plasticity, trace gravel	3.9	Moist	
16				CL				
17		15-20	90%		Grey CLAY, high plasticity, trace gravel, soft	2.9		
18								
19				CH		1.6		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-7 (4-6)
Sample 2: SB-7 (12-14)



LOG OF SOIL BORING SB-8

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 24.1"
Drilling Method	: Track mounted	Easting	: 83°10' 31.1"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone		Dry	
1						5.0	Moist	
2				SW-GP	Dark brown GRAVELLY SAND, some clay			
3		0-5	80%		Brown, CLAY, low plasticity, trace gravel, with brown mottles.	1.9		[Graphic Column]
4						1.4		
5						4.1		
6						2.6		
7	1	5-10	100%			2.2		
8				CL				
9								
10								
11								
12					No mottles			
13	2	10-15	100%			3.7		
14						3.9		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-8 (6-8)
 Sample 2: SB-8 (12-14)

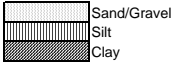


LOG OF SOIL BORING SB-8
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Brown CLAY, low plasticity, trace gravel	3.9	Moist	
16				CL				
17		15-20	90%	High plasticity		4.2		
18								
19				CH		3.2		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-8 (6-8)
Sample 2: SB-8 (12-14)



LOG OF SOIL BORING SB-9

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 23.3"
Drilling Method	: Track mounted	Easting	: 83° 10' 31.9"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Asphalt		Dry	
1					Black CLAY WITH SAND, high plasticity, soft, medium grained sand	120	Moist	
2	1	0-5	65%	CH-SP		600		
3					Brown CLAY, low plasticity, trace gravel, with grey mottles.			
4						108		
5						9.4		
6		5-10	100%			3.6		
7					CL			
8						150		
9						270		
10								
11								
12	2	10-15	80%			52		
13								
14								
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-9 (2-4)
 Sample 2: SB-9 (12-14)

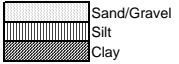


LOG OF SOIL BORING SB-9
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Brown CLAY, low plasticity, trace gravel	52	Moist	
16				CL				
17		15-20	95%		Grey CLAY, high plasticity, soft	130		
18								
19				CH		41		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-9 (2-4)
Sample 2: SB-9 (12-14)



LOG OF SOIL BORING SB-10

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 1/31/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 22.9"	
Drilling Method : Track mounted	Easting : 83° 10' 30.9"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Brown CLAY WITH GRAVEL, low plasticity clay, well graded gravel		Moist	
1						6.1		
2		0-5	100%	CL-GW	Grey CLAY, low plasticity, trace gravel			
3						3.7		
4								
5						2.8		
6	1	5-10	80%					
7								32
8								
9						3.3		
10								
11						1.6		
12	2	10-15	100%					
13								4.4
14								
15						3.2		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-10 (6-8)
 Sample 2: SB-10 (12-14)



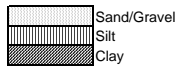
LOG OF SOIL BORING SB-10
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15				CL	Grey CLAY, low plasticity, trace gravel	3.2	Moist	
16					Grey CLAY, high plasticity, trace gravel, soft			
17		15-20	80%	CH		4.3		
18								
19						3.6		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-10 (6-8)
Sample 2: SB-10 (12-14)



LOG OF SOIL BORING SB-11

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.4"
Drilling Method	: Track mounted	Easting	: 83° 10' 35.7"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Black WELL GRADED SAND, little clay, trace gravel	0.1	Moist	
2		0-5	80%	SW				
3					Brown CLAY, low plasticity, little gravel	0.2		
4								
5	1					0.4		
6				CL				
7						0.7		
8		5-10	100%					
9					High plasticity, gray	2.5		
10								
11						2.9		
12				CH				
13	2	10-15	90%			5.4		
14								
15						3.2		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-11 (4-6)
 Sample 2: SB-11 (12-14)

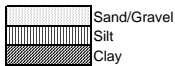


LOG OF SOIL BORING SB-11
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Gray CLAY, high plasticity, little gravel	3.2	Moist	
16				1.6				
17		15-20	100%			2.7		
18								
19								
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-11 (4-6)
Sample 2: SB-11 (12-14)



LOG OF SOIL BORING SB-12

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.3"
Drilling Method	: Track mounted	Easting	: 83° 10' 36.6"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1				SW	Black WELL GRADED SAND WITH CLAY, low plasticity, trace gravel	Not Sampled	Wet	
2		0-5	80%		Brown, CLAY, low plasticity, trace gravel		Moist	
3						5.2		
4								
5	1					0.8		
6								
7				CL				
8		5-10	100%					
9						0.1		
10								
11						0.9		
12								
13	2	10-15	100%		Gray CLAY, high plasticity, trace gravel			
14				CH		0.1		
15								
						0.9		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-12 (4-6)
 Sample 2: SB-12 (12-14)

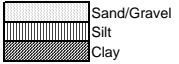


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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Gray CLAY, high plasticity, trace gravel	2.1	Moist	
16								
17		15-20	80%	CH		3.3		
18								
19						0.9		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1:
Sample 2:



LOG OF SOIL BORING SB-13

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.6"
Drilling Method	: Track mounted	Easting	: 83° 10' 36.6"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Brown WELL GRADED SAND, trace gravel	Not Sampled	Wet	
2	1	0-5	90%	SW	Black			
3							550	Moist
4					Brown CLAY, low plasticity, trace gravel			
5						12.2		
6								
7						186		
8								
9						72		
10					Gray			
11						3.4		
12								
13	2	10-15	90%		Gray CLAY, high plasticity, trace gravel			
14				CH		2.1		
15						3.1		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%

	Sand/Gravel
	Silt
	Clay

Sample 1: SB-13 (2-4)
 Sample 2: SB-13 (12-14)



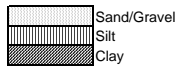
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Gray CLAY, high plasticity, trace gravel	3.1	Moist	
16				2.6				
17		15-20	100%	CH		1.8		
18								
19								
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-13 (2-4)
Sample 2: SB-13 (12-14)



LOG OF SOIL BORING SB-14

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 1/31/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 28.1"	
Drilling Method : Track mounted	Easting : 83° 10' 36.5"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1	1	0-5	NA	SW	Black WELL GRADED SAND, little gravel, trace silt	6.7	Moist	
2					Brown, SILTY SAND, trace gravel	2.9	Wet	
3								
4								
5				SM		3.5		
6								
7						0.2		
8		5-10	100%		Brown, WELL GRADED SAND, little silt, trace gravel			
9								
10				SW		6.5		
11								
12								
13	2	10-15	100%	SW		1.5		
14				CL	Grey CLAY, low plasticity, trace gravel	1.6	Moist	
15				CH	High plasticity	2.6		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%

	Sand/Gravel
	Silt
	Clay

Sample 1: SB-14 (0-2)
 Sample 2: SB-14 (12-14)
 Hand auger from 0-5 feet bgs.

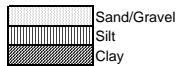


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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	2.6	Moist	
16								
17		15-20	95%	CH		1.9		
18								
19						2.1		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-14 (0-2)
Sample 2: SB-14 (12-14)



LOG OF SOIL BORING SB-15

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 1/31/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.9"
Drilling Method	: Track mounted	Easting	: 83° 10' 35.9"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Brown WELL GRADED SAND, little silt, trace gravel	48.9	Moist	
2	1	0-5	80%			2.2		
3						0.7		
4						7.7		
5					1.3			
6				SW				
7		5-10	100%					
8								
9								
10								
11								
12					Brown WELL GRADED SAND WITH SILT		Wet	
13		10-15	100%			1.9		
14				SW-SM		4.6		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-15 (2-4)
 Sample 2: SB-15 (16-18)



LOG OF SOIL BORING SB-15
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15				SW	Brown WELL GRADED SAND WITH SILT	4.6	Wet	
16	2	15-20	100%	CH	Gray, CLAY, high plasticity, trace gravel	2.3	Moist	
17								
18								
19						4.6		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%		Sand/Gravel	Sample 1: SB-15 (2-4)
Little: 10-20%		Silt	Sample 2: SB-15 (16-18)
Some: 20-35%		Clay	
And: 35-50%			



LOG OF SOIL BORING SB-16

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/1/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 28.3"	
Drilling Method : Track mounted	Easting : 83° 10' 36.7"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone			
1					Grey WELL GRADED SAND, little silt	527	Moist	
2		0-5	60%					
3						99	Wet	
4								
5	1					69		
6								
7						30		
8		5-10	80%					
9						6.0		
10								
11					2.3			
12								
13		10-15	60%			4.4		
14								
15						2.3		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-16 (4-6)
 Sample 2: SB-16 (17-19)



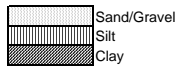
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15	2	15-20	40%		Grey WELL GRADED SAND, little silt	2.3	Wet	
16				SW				
17								Grey CLAY, high plasticity, trace gravel
18				CH				
19						4.1		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-16 (4-6)
Sample 2: SB-16 (17-19)



LOG OF SOIL BORING SB-17

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : Yes, temporary
Drilling Date : 2/1/2012	Depth of Boring : 20 feet bgs
Drilling Company : Fibertec	Northing : 42° 23' 28.3"
Drilling Method : Track mounted	Easting : 83° 10' 35.8"
Geoprobe DT660	Elevation :

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Pea Gravel			
1				GW	Crushed Limestone, angular, with silty clay	3.6		
2		0-5	50%				Wet	
3				SW-SC	Brown WELL GRADED SAND WITH CLAY AND GRAVEL	1.6		
4								
5	1				Brown WELL GRADED SAND, little silt	1.1		
6								
7		5-10	100%	SW		1.9		
8								
9						1.4		
10								
11						1.7		
12					Gray CLAY, high plasticity, trace gravel			
13	2	10-15	90%	CH		2.1		
14								
15						1.7		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-17 (4-6)
 Sample 2: SB-17 (12-14)

Collect groundwater sample from temp well screened from 6' - 11' bgs.



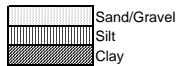
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Gray CLAY, high plasticity, trace gravel	1.7	Moist	
16				1.2				
17		15-20	90%	CH		2.1		
18								
19								
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1:
Sample 2:



LOG OF SOIL BORING SB-18

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/1/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 27.9"	
Drilling Method : Track mounted	Easting : 83° 10' 36.3"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Grey WELL GRADED SAND, little silt	4.8	Moist	
2		0-5	60%			6.5	Wet	
3								
4								
5	1					1.1		
6				SW				
7					Brown	1.0		
8		5-10	100%					
9						1.9		
10								
11						1.4		
12				SW-SM	Brown WELL GRADED SAND WITH SILT, trace gravel			
13	2	10-15	80%			1.2	Moist	
14					Grey CLAY, high plasticity, trace gravel			
15						1.8		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



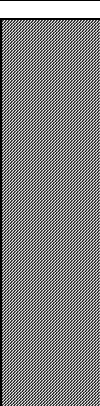
Sample 1: SB-18 (4-6)
 Sample 2: SB-18 (13-15)

Groundwater sample collected from temp well screened from 5' - 10' bgs.







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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15 16 17 18 19 20		15-20	100%	CH	Grey CLAY, high plasticity, trace gravel	1.8 1.1 0.9	Moist	
					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%		Sand/Gravel	Sample 1: SB-18 (4-6)
Little: 10-20%		Silt	Sample 2: SB-18 (13-15)
Some: 20-35%		Clay	Groundwater sample collected from temp well screened from 5' - 10' bgs.
And: 35-50%			



LOG OF SOIL BORING SB-19

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Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/1/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 28.1"	
Drilling Method : Track mounted	Easting : 83° 10' 37.1"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Black WELL GRADED SAND, little silt	150	Moist	
2		0-5	80%	SW				
3	1				Grey CLAY, high plasticity, trace gravel	127		
4				CH				
5				SW	Brown WELL GRADED SAND WITH SILT	32	Wet Moist	
6					Brown CLAY, low plasticity, trace gravel			
7		5-10	100%			25		
8								
9					Grey	20		
10				CL				
11	2					15		
12								
13		10-15	100%			13		
14				CH	Grey CLAY, high plasticity, trace gravel	21		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-19 (3-5)
 Sample 2: SB-19 (10-12)



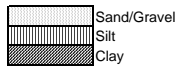
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Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	21	Moist	
16								
17		15-20	60%	CH		9.9		
18								
19						4.5		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-19 (3-5)
Sample 2: SB-19 (10-12)



LOG OF SOIL BORING SB-20

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/1/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 28.0"	
Drilling Method : Track mounted	Easting : 83° 10' 37.5"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Black WELL GRADED SAND	99	Moist	
2		0-5	90%	SW				
3					Brown CLAY, low plasticity, trace gravel	222		
4								
5						180		
6								
7		5-10	100%			115		
8					Trace coarse sand			
9				CL		24		
10								
11					Grey	9.1		
12		10-15	100%			6.7		
13								
14						10.2		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-20 (3-5)
 Sample 2: SB-20 (10-12)

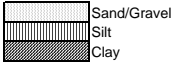


LOG OF SOIL BORING SB-20
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, low plasticity, trace gravel	10.2	Moist	
16				CL				
17		15-20	90%		Grey CLAY, high plasticity, trace gravel	12.7		
18								
19				CH		13.9		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1:
Sample 2:



LOG OF SOIL BORING SB-21

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/1/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 28.3"
Drilling Method	: Track mounted	Easting	: 83° 10' 37.7"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Brown WELL GRADED SAND, trace silt		Moist	
1						44.9		
2		0-5		SW				
3					Grey	198.0		
4				SW-SM	Grey WELL GRADED SAND WITH SILT		Wet	
5	1					31.0	Moist	
6					Grey CLAY, low plasticity, little sand, little silt			
7		5-10	80%	CL		29.8		
8								
9						26.1		
10								
11	2					9.2		
12		10-15	100%	CH	Grey CLAY, high plasticity, trace gravel			
13						8.3		
14								
15						5.4		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-21 (4-6)
 Sample 2: SB-21 (10-12)

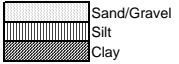


LOG OF SOIL BORING SB-21
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	5.4	Moist	
16								
17		15-20	90%	CH		4.1		
18								
19						3.2		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-21 (4-6)
Sample 2: SB-21 (10-12)



LOG OF SOIL BORING SB-22
PAGE 1 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	:	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 28.3"
Drilling Method	: Track mounted	Easting	: 83° 10' 38.5"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Brown WELL GRADED SAND WITH GRAVEL	5.2	Moist	
1								
2		0-5	Hand Auger	SW				
3					Black WELL GRADED SAND, little gravel	850		
4					Brown CLAY, low plasticity, trace gravel, with grey mottles			
5	1					285		
6								
7		5-10	100%	CL		71.0		
8								
9						34.4		
10								
11	2					8.1		
12		10-15	80%	CH				
13					Grey CLAY, high plasticity, trace gravel	4.9		
14								
15						3.7		

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-22 (4-6)
Sample 2: SB-22 (10-12)

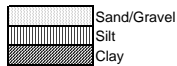


LOG OF SOIL BORING SB-22
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	3.7	Moist	
16								
17		15-20	100%	CH		3.1		
18								
19						1.7		
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-22 (4-6)
Sample 2: SB-22 (10-12)



LOG OF SOIL BORING SB-23

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/1/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.55"
Drilling Method	: Track mounted	Easting	: 83° 10' 38.2"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Black WELL GRADED SAND, little silt, trace gravel	391	Moist	
2		0-5	60%	SW				
3					Brown CLAY, high plasticity, trace gravel, with grey mottles	36.0		
4								
5	1					57.0		
6					Grey WELL GRADED SAND WITH SILT, trace gravel			
7						22.0		
8		5-10	100%		Brown CLAY, low plasticity, trace gravel			
9						9.1		
10								
11				CL		55.0		
12								
13	2	10-15	95%			15.2		
14				CH	Grey, CLAY, high plasticity, trace gravel	12.1		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-23 (4-6)
 Sample 2: SB-23 (12-14)

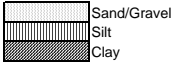


LOG OF SOIL BORING SB-23
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	12.1	Moist	
16				12.1				
17		15-20	90%	CH		13.5		
18								
19								
20					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-23 (4-6)
Sample 2: SB-23 (12-14)



LOG OF SOIL BORING SB-24

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/2/2012	Depth of Boring : 20 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 28.3"	
Drilling Method : Track mounted	Easting : 83° 10' 39.0"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Brown GRAVELLY SAND, little silt		Moist	
1				SW		111		
2		0-5		Hand Auger				
3					Brown CLAY, low plasticity, with grey mottles	520		
4								
5	1					350		
6								
7		5-10	100%			215		
8				CL				
9						41		
10								
11	2					3.2		
12		10-15	100%	Grey				
13						3.7		
14				CH	Grey CLAY, high plasticity, with trace gravel	2.4		
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-24 (4-6)
 Sample 2: SB-24 (10-12)



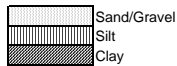
LOG OF SOIL BORING SB-24
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, with trace gravel	2.4	Moist	
16				2.1				
17		15-20	85%	CH				
18						3.3		
19								
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1:
Sample 2:



LOG OF SOIL BORING SB-25

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/2/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 28.1"
Drilling Method	: Track mounted	Easting	: 83° 10' 39.3"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Crushed Limestone			
1					Concrete	146	Moist	
2		0-5	70%	SW	Black WELL GRADED SAND, little silt			
3						211		
4					Brown CLAY, low plasticity, trace gravel, with grey mottles			
5	1					46		
6								
7		5-10	95%	CL		56		
8								
9						21		
10								
11	2				Grey	40		
12		10-15	100%					
13					Grey CLAY, high plasticity	8.6		
14				CH				
15						8.2		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-25 (4-6)
 Sample 2: SB-25 (10-12)



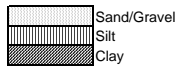
LOG OF SOIL BORING SB-25
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity	8.2	Moist	
16								
17		15-20	80%	CH		3.6		
18								
19						1.5		
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-25 (4-6)
Sample 2: SB-25 (10-12)



LOG OF SOIL BORING SB-26

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/2/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.7"
Drilling Method	: Track mounted	Easting	: 83° 10' 38.9"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1						255	Moist	
2		0-5	80%	SW	Black WELL GRADED SAND, little silt			
3					Brown CLAY, low plasticity, grey mottles, trace gravel	94		[Graphic Column]
4								
5							22	
6								
7		5-10	100%	CL		39		
8								
9						45		
10					Grey			
11						35		
12		10-15	85%		Grey CLAY, high plasticity, trace gravel			
13				CH			22	
14							9.9	
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-26 (2-4)
 Sample 2: SB-26 (12-14)



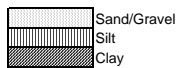
LOG OF SOIL BORING SB-26
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15					Grey CLAY, high plasticity, trace gravel	9.9	Moist	
16				9.1				
17		15-20	90%	CH		5.4		
18								
19								
20					End of Boring, 20' bgs.			

Legend:

Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-26 (2-4)
Sample 2: SB-26 (12-14)



LOG OF SOIL BORING SB-27

PAGE 1 of 2

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/2/2012	Depth of Boring	: 20 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.7"
Drilling Method	: Track mounted	Easting	: 83° 10' 38.6"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1				SW	Black WELL GRADED SAND, with silt	306	Moist	
2		0-5	80%		Brown CLAY, low plasticity, grey mottles, little gravel			
3				CL		25		
4								
5	1			GP	Brown POORLY GRADED GRAVEL, little clay, small gravel	118		
6								
7		5-10	100%		Brown CLAY, low plasticity, little gravel, with grey mottles	51		
8								
9						79		
10				CL				
11					Grey	18		
12		10-15	90%					
13						17		
14	2							
15						37		

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%

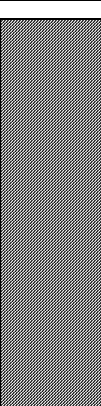


Sample 1: SB-27 (4-6)
 Sample 2: SB-27 (14-16)

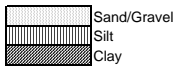


LOG OF SOIL BORING SB-27
PAGE 2 of 2

Project No.: 54910.001
Detroit DOT
14044 Schafer Highway
Detroit, MI

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
15 16 17 18 19 20	2	15-20	90%	CH	Grey CLAY, high plasticity, little gravel	37 9.1 8.2	Moist	
					End of Boring, 20' bgs.			

Legend:
Trace: 1-10%
Little: 10-20%
Some: 20-35%
And: 35-50%



Sample 1: SB-27 (4-6)
Sample 2: SB-27 (14-16)



LOG OF SOIL BORING SB-28

PAGE 1 of 1

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/2/2012	Depth of Boring	: 7 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.8"
Drilling Method	: Track mounted	Easting	: 83° 10' 37.9"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Brown POORLY GRADED GRAVEL, small gravel	NS	Moist	
2		0-5	5%					
3				GW		NS		
4								
5								
6	1	5-7	20%	SW	Black WELL GRADED SAND WITH SILT,	NS	Wet	
7					Refusal @7' BGS. End of Boring			
8								
9								
10								
11								
12								
13		10-15						
14								
15	2							

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-28 (6-7)



LOG OF SOIL BORING SB-29

PAGE 1 of 1

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist : Ron Friend	Well Install : No	
Drilling Date : 2/2/2012	Depth of Boring : 7 feet bgs	
Drilling Company : Fibertec	Northing : 42° 23' 27.9"	
Drilling Method : Track mounted	Easting : 83° 10' 37.4"	
Geoprobe DT660	Elevation :	

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Black SILTY SAND, well graded sand, little gravel	36	Moist	
2		0-5	80%	ML				
3					Brown CLAY, low plasticity, little gravel	99		
4								
5						772		
6				CL				
7		5-7	100%			10.8		
8								
9	1					10.3		
10								
11								
12								
13								
14								
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-29 (9-10)



LOG OF SOIL BORING SB-30

PAGE 1 of 1

Project No.: 54910.001
 Detroit DOT
 14044 Schafer Highway
 Detroit, MI

Geologist	: Ron Friend	Well Install	: No
Drilling Date	: 2/2/2012	Depth of Boring	: 7 feet bgs
Drilling Company	: Fibertec	Northing	: 42° 23' 27.9"
Drilling Method	: Track mounted	Easting	: 83° 10' 37.0"
	Geoprobe DT660	Elevation	:

Depth in feet	Samples	Spoon Interval	%Recovery	USCS	LITHOLOGIC DESCRIPTION	Field Screening	Moisture	GRAPHIC
0					Concrete			
1					Brown SILTY SAND, fine to medium grained sand	14	Moist	
2	1	0-5	90%	ML	Black			
3						99		
4								
5					Brown CLAY, low plasticity, trace gravel	772		
6				CL				
7		5-7	100%			10.8		
8					Brown CLAY, high plasticity, grey mottles			
9	2			CH		10.3		
10								
11								
12								
13								
14								
15								

Legend:
 Trace: 1-10%
 Little: 10-20%
 Some: 20-35%
 And: 35-50%



Sample 1: SB-30 (2-4)
 Sample 2: SB-30 (9-10)

APPENDIX B
Analytical Reports

February 03, 2012

Mr. Pewu Bah-Deh
MDEQ
27700 Donald Ct.
Warren, MI 49092

RE: Trace Project T12A272
MDEQ Site 82002470 / City of Detroit -DOT

Dear Mr. Bah-Deh:

Enclosed are the analytical results that represent the completed report for the above project. All analyses were completed at Trace Analytical Laboratories, Inc.

The sample was received on 1/31/2012 13:20 PM , in good condition, correctly labeled and properly preserved. Any problems encountered during sample receipt are addressed in the enclosed Sample Log-In Checklist.

Every practical effort was made to meet the quality control requirements of each analytical method and the reporting limit specifications of the project. The analytical data associated with this project has been reviewed for accuracy, precision, and completeness. Methods used for analyses are indicated on analytical reports. A Statement of Data Qualifications Section is provided for any data that required qualification.

Ms. Gina M. Roe has reviewed the QA/QC results associated with the analysis of these samples. To the best knowledge of the signer, the QA/QC data are complete and accurate. The review was completed on February 03, 2012.

If you have questions or require further information, please contact me at 231.773.5998 or by email at groe@trace-labs.com.

Sincerely,



Gina M. Roe
Laboratory Manager

Enclosures

c: Mr. Craig Savage
Gannett Fleming
44099 Plymouth Oaks Blvd, Suite 102
Plymouth, MI 48170-6527



NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
info@trace-labs.com
www.trace-labs.com

TRACE ID T12A272
MDEQ Site 82002470 / City of Detroit -DOT

CROSS REFERENCE TABLE

MDEQ ID	TRACE ID
SB-3 (2-4)	T12A272-01

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Trace Analytical Laboratories, Inc.

QUALIFIER KEY
DEFINITIONS

<, ND or U	Indicates the compound was analyzed for but not detected.
*	Indicates a result that exceeds its associated MCL or Surrogate control limits.
N	Indicates that the compound has not been evaluated by NELAC.
NA	Indicates that the compound is not available.
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Trace Analytical Laboratories, Inc.

ANALYTICAL RESULTS

Trace Project ID: T12A272
Client Project ID: 82002470 / City of Detroit -DOT

Trace ID: T12A272-01 Date Collected: 01/30/12 12:00 Matrix: Solid
Sample ID: SB-3 (2-4) Date Received: 01/31/12 13:20

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED BY	ANALYZED BY	NOTES	MCL
------------	---------------	-----	----------	-------------	-------------	-------	-----

VOLATILE ORGANIC COMPOUNDS, TCLP

Analysis Method: EPA 8260B

Batch: T027534

Vinyl chloride	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.20
1,1-Dichloroethene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.70
2-Butanone	<0.25 mg/L	0.25	50	02/01/12	was	02/01/12	was	200
Chloroform	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	6.0
Carbon tetrachloride	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.50
Benzene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.50
1,2-Dichloroethane	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.50
Trichloroethene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.50
Tetrachloroethene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	0.70
Chlorobenzene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	100
1,4-Dichlorobenzene	<0.050 mg/L	0.050	50	02/01/12	was	02/01/12	was	7.5

Surrogates:

1,2-Dichloroethane-d4	112 %	68-133	50	02/01/12	was	02/01/12	was	
Toluene-d8	103 %	75-120	50	02/01/12	was	02/01/12	was	
4-Bromofluorobenzene	99 %	69-119	50	02/01/12	was	02/01/12	was	
1,2-Dichlorobenzene-d4	113 %	72-127	50	02/01/12	was	02/01/12	was	

METALS, TCLP

Analysis Method: EPA 6010B

Batch: T027551

Arsenic	<0.30 mg/L	0.30	1	02/02/12	ns	02/02/12	jd	5.0
Barium	<1.0 mg/L	1.0	1	02/02/12	ns	02/02/12	jd	100
Cadmium	<0.10 mg/L	0.10	1	02/02/12	ns	02/02/12	jd	1.0
Chromium	<0.50 mg/L	0.50	1	02/02/12	ns	02/02/12	jd	5.0
Lead	<0.50 mg/L	0.50	1	02/02/12	ns	02/02/12	jd	5.0
Selenium	<0.60 mg/L	0.60	1	02/02/12	ns	02/02/12	jd	1.0
Silver	<0.10 mg/L	0.10	1	02/02/12	ns	02/02/12	jd	5.0

Analysis Method: EPA 7470A

Batch: T027553

Mercury	<0.010 mg/L	0.010	1	02/02/12	ns	02/02/12	jd	0.20
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QUALITY CONTROL RESULTS

Trace Project ID: T12A272

Client Project ID: 82002470 / City of Detroit -DOT

QC Batch: T027551

Analysis Description: Arsenic, TCLP

QC Batch Method: EPA 3015 Microwave Assisted Digestions for

Analysis Method: EPA 6010B

METHOD BLANK: T027551-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.10	0.10	
Arsenic	mg/L	<0.30	0.30	
Barium	mg/L	<1.0	1.0	
Cadmium	mg/L	<0.10	0.10	
Chromium	mg/L	<0.50	0.50	
Lead	mg/L	<0.50	0.50	
Selenium	mg/L	<0.60	0.60	

METHOD BLANK: T027551-BLK2

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.10	0.10	
Arsenic	mg/L	<0.30	0.30	
Barium	mg/L	<1.0	1.0	
Cadmium	mg/L	<0.10	0.10	
Chromium	mg/L	<0.50	0.50	
Lead	mg/L	<0.50	0.50	
Selenium	mg/L	<0.60	0.60	

METHOD BLANK: T027551-BLK3

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.10	0.10	
Arsenic	mg/L	<0.30	0.30	
Barium	mg/L	<1.0	1.0	
Cadmium	mg/L	<0.10	0.10	
Chromium	mg/L	<0.50	0.50	
Lead	mg/L	<0.50	0.50	
Selenium	mg/L	<0.60	0.60	

LABORATORY CONTROL SAMPLE: T027551-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	mg/L	0.0278	<0.10	89	80-120	
Arsenic	mg/L	0.0556	<0.30	93	80-120	
Barium	mg/L	0.889	<1.0	100	80-120	
Cadmium	mg/L	0.0278	<0.10	101	80-120	
Chromium	mg/L	0.0278	<0.50	102	80-120	
Lead	mg/L	0.0556	<0.50	92	80-120	
Selenium	mg/L	0.0556	<0.60	101	80-120	

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Trace Project ID: T12A272
Client Project ID: 82002470 / City of Detroit -DOT

QC Batch: T027553 Analysis Description: Mercury, TCLP
QC Batch Method: EPA 7470A Prep Analysis Method: EPA 7470A

METHOD BLANK: T027553-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.010	0.010	

METHOD BLANK: T027553-BLK2

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.010	0.010	

METHOD BLANK: T027553-BLK3

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.010	0.010	

LABORATORY CONTROL SAMPLE: T027553-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	mg/L	0.00200	<0.010	107	80-120	

Trace Project ID: T12A272
Client Project ID: 82002470 / City of Detroit -DOT

QC Batch: T027518 Analysis Description: TCLP Extraction, Metals
QC Batch Method: Leaching procedures Analysis Method: EPA 1311

Trace Project ID: T12A272
Client Project ID: 82002470 / City of Detroit -DOT

QC Batch: T027522 Analysis Description: TCLP ZHE, Volatiles
QC Batch Method: Leaching procedures Analysis Method: EPA 1311

Trace Project ID: T12A272
Client Project ID: 82002470 / City of Detroit -DOT

QC Batch: T027534 Analysis Description: TCLP Volatiles
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes Analysis Method: EPA 8260B

METHOD BLANK: T027534-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Vinyl chloride	mg/L	<0.050	0.050	
1,1-Dichloroethene	mg/L	<0.050	0.050	
2-Butanone	mg/L	<0.25	0.25	
Chloroform	mg/L	<0.050	0.050	
Carbon tetrachloride	mg/L	<0.050	0.050	
Benzene	mg/L	<0.050	0.050	
1,2-Dichloroethane	mg/L	<0.050	0.050	
Trichloroethene	mg/L	<0.050	0.050	
Tetrachloroethene	mg/L	<0.050	0.050	

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METHOD BLANK: T027534-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Chlorobenzene	mg/L	<0.050	0.050	
1,4-Dichlorobenzene	mg/L	<0.050	0.050	
1,2-Dichloroethane-d4 (S)	%	99	68-133	
Toluene-d8 (S)	%	104	75-120	
4-Bromofluorobenzene (S)	%	103	69-119	
1,2-Dichlorobenzene-d4 (S)	%	118	72-127	

LABORATORY CONTROL SAMPLE: T027534-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Vinyl chloride	mg/L	1.00	0.924	92	47-184	
1,1-Dichloroethene	mg/L	1.00	0.984	98	64-156	
2-Butanone	mg/L	1.00	0.957	96	70-130	
Chloroform	mg/L	1.00	0.906	91	80-120	
Carbon tetrachloride	mg/L	1.00	0.877	88	79-141	
Benzene	mg/L	1.00	0.906	91	80-120	
1,2-Dichloroethane	mg/L	1.00	0.878	88	80-120	
Trichloroethene	mg/L	1.00	0.878	88	69-133	
Tetrachloroethene	mg/L	1.00	0.892	89	70-120	
Chlorobenzene	mg/L	1.00	0.933	93	80-120	
1,4-Dichlorobenzene	mg/L	1.00	0.884	88	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	24.8	99	68-133	
Toluene-d8 (S)	%	25.0	25.7	103	75-120	
4-Bromofluorobenzene (S)	%	25.0	26.1	105	69-119	
1,2-Dichlorobenzene-d4 (S)	%	25.0	30.5	122	72-127	

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Released
 Lab 1-31-12 15:20

J. Smith
 15:22

T12A272

Handwritten initials

MICHIGAN DEPT. OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY
 ANALYSIS REQUEST SHEET

Goldenrod
 Page 1 of 2

MATRIX=SEDIMENT/SOIL/SOLIDS

LAB ORDER # []
 SITE CODE NUMBER 82002470
 SITE NAME City of Detroit - DOT
 DIVISION Southeast
 DISTRICT/OFFICE Southeast
 MDNRE PROJECT MANAGER Pewu Bah-Deh
 E-MAIL ADDRESS []
 RD []
 PRIMARY CONTACT PERSON Craig Savage
 CONTRACT FIRM NAME (if applicable) Gannett Fleming
 PHONE 734-459-6955
 bahdehp@michigan.gov
 AY: 2010 INDEX: 44701 PCA: 30822
 PROJECT: U13464 PH: 00
 E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
 1.) csavage@gfnet.com
 2.) rfriend@gfnet.com
 COLLECTED BY: Ron Friend
 PHONE: 734-740-8527
 ***** SAFETY INFORMATION REQUIRED *****
 SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED		GPS COORDINATES		COMMENT
			DATE MM/DD/YY	TIME MILITARY	LATITUDE	LONGITUDE	
1	AB	SB-1 (4-6)	1-30-12	1015			
2	AB	SB-1 (10-12)		1025			soil wt 10.3
3	AB	SB-2 (4-6)		1055			
4	AB	SB-2 (14-16)		1110			10.1
5	AB	SB-3 (2-4)		1200			10.4
6	AB	SB-3 (8-10)		1205			TCLP/SPLP 10.7
7	AB	SB-4 (6-8)		1250			10.3
8	AB	SB-4 (14-16)		1255			10.5
9	AB	SB-5 (10-12)		1340			10.7
10	AB	SB-5 (16-18)		1345			

ORGANIC

- VOA VOLATILES *(MeOH/8260)
 - VOG - Full List 1 2 3 4 5 6 7 8 9 10
 - BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10
 - Chlorinated only 1 2 3 4 5 6 7 8 9 10
 - GRO 1 2 3 4 5 6 7 8 9 10
 - 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10
- OS PESTICIDES/PCBS (8081/8082)
 - Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10
 - Pesticides only 1 2 3 4 5 6 7 8 9 10
 - Specialty Pesticides 1 2 3 4 5 6 7 8 9 10
 - Toxaphene 1 2 3 4 5 6 7 8 9 10
 - PCBs only 1 2 3 4 5 6 7 8 9 10
- BNA BASE NEUTRAL & ACIDS (8270)
 - BNAs 1 2 3 4 5 6 7 8 9 10
 - PNAs only 1 2 3 4 5 6 7 8 9 10
 - BNs only 1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

- Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10
- Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10
- FingerPrint 1 2 3 4 5 6 7 8 9 10
- DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10
- Low Level PNA 1 2 3 4 5 6 7 8 9 10

INORGANIC

- MICH TEN METALS 1 2 3 4 5 6 7 8 9 10
 (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)
- OP MEMO 2 Metals 1 2 3 4 5 6 7 8 9 10
 (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, V, Zn)
- Circle Requested Metal and Corresponding Sample No. 1 2 3 4 5 6 7 8 9 10
- Al Sb As Bg Be Cd Cr 1 2 3 4 5 6 7 8 9 10
- Co Cu Fe Pb/Li Mn Hg 1 2 3 4 5 6 7 8 9 10
- Mo Ni Se Ag Sr Ti Th 1 2 3 4 5 6 7 8 9 10
- V Zn 1 2 3 4 5 6 7 8 9 10
- Pb (BOTH COARSE & FINE) 1 2 3 4 5 6 7 8 9 10
- Low Level Mercury 1 2 3 4 5 6 7 8 9 10
- Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
- % Total Solids 1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

- GS 1 2 3 4 5 6 7 8 9 10
- COD 1 2 3 4 5 6 7 8 9 10
- TOC 1 2 3 4 5 6 7 8 9 10
- KJEL N, Tot. P. 1 2 3 4 5 6 7 8 9 10
- Phenolics 1 2 3 4 5 6 7 8 9 10
- Total CN 1 2 3 4 5 6 7 8 9 10
- Available Cyanide 1 2 3 4 5 6 7 8 9 10
- Flash Point (1030) 1 2 3 4 5 6 7 8 9 10

TRACE Other TCLP/SPLP

RELEASED BY / ORGANIZATION: Ron Friend / Gannett Fleming
 RECEIVED BY / ORGANIZATION: Felix / Trace Labs
 DATE: 1/31/12
 TIME: 13:20

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SAMPLE LOG IN CHECKLIST

Date: 1-31-12 Client Name: MDEO # of Coolers: 1
Trace ID #: T12A272 Project Name: _____ Cooler #s: _____
Logged in by: [Signature] Cooler #s: _____

Cooler Receipt

Cooler/samples delivered by: Trace courier Hand delivered Commercial courier Name of delivery person: Tim B
UPS DHL FED EX US Mail
Did cooler come with a bill of lading? No Yes Not Applicable
Way Bill or Tracking #: _____
COC Seals present and intact on cooler? No Yes Not Applicable
Custody seals signed by Client? No Yes Client custody seal # (if applicable): _____

Coolant and Temperature

Type of Coolant Used		Cooler Temperature	Correction Factor <u>+0.2</u> °C
Yes	No	Date: <u>1-31-12</u>	Time: <u>15:22</u>
Slurry w/ crushed, cubed, or chip ice? <input type="checkbox"/>	<input type="checkbox"/>	Temperature Blank: <u>7.8</u> °C	
Multiple bags of ice around samples? <input checked="" type="checkbox"/>	<input type="checkbox"/>	Range of 3 samples: <u>1, 0</u> °C	
Ice Packs/ Blue Ice: <input type="checkbox"/>	<input type="checkbox"/>	Melt Water: _____ °C	
No Coolant Present: <input type="checkbox"/>		Ice still present upon receipt: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

General

	Yes	No	NA
COC taped to inside of cooler lid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All bottles arrived unbroken with labels in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Each sample point is in a sealed plastic bag?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Labels filled out completely?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All bottle labels agree with Chain of Custody (COC)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient sample to run tests requested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH checked and samples at correct pH?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Correct preservative added to samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DRO/GRO samples received and appropriate check in form completed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air bubbles absent from VOAs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC filled out properly and signed by client?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC signed in by TRACE sample custodian?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was project manager called and samples discussed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Contact: _____ Date: _____

Notes: _____

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Gina Roe

From: Savage, Craig A. [csavage@GFNET.com]
Sent: Tuesday, January 31, 2012 4:21 PM
To: groe@trace-labs.com
Subject: TCLP DDOT facility, Detroit

Hi Gina,

In response to your questions about the TCLP/SPLP samples submitted to you from the State Laboratory for the DDOT Schaefer Hwy (Coolidge) Site, please run only TCLP for volatiles and RCRA-8 metals. This sample is to have information available for waste disposal firms to obtain approval for landfill disposal. Call with any questions. Thanks.

Craig A. Savage | Vice President, Regional Office Manager
Gannett Fleming of Michigan, Inc. | 44099 Plymouth Oaks Blvd., Suite 102, Plymouth, MI 48170-6527
t 734.459.6955 | c 734.552.2222 | csavage@gfnet.com

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1/31/2012

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Division: RD
Report to: PEWU BAH-DEH
 MDEQ-RD-WARREN
 SOUTHEAST MICHIGAN DISTRICT OFF
 27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order # : 20200013
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 02/02/2012
Reported: 03/05/2012
Collected By: RON FRIEND

Total: \$8,329.50

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90454	SB-8 (6-8)	SEDIMENT	01/31/2012
02	AB90455	SB-8 (12-14)	SEDIMENT	01/31/2012
03	AB90456	SB-9 (2-4)	SEDIMENT	01/31/2012
04	AB90457	SB-9 (12-14)	SEDIMENT	01/31/2012
05	AB90458	SB-10 (6-8)	SEDIMENT	01/31/2012
06	AB90459	SB-10 (12-14)	SEDIMENT	01/31/2012
07	AB90460	SB-11 (4-6)	SEDIMENT	01/31/2012
08	AB90461	SB-11 (12-14)	SEDIMENT	01/31/2012
09	AB90462	SB-12 (4-6)	SEDIMENT	01/31/2012
10	AB90463	SB-12 (12-14)	SEDIMENT	01/31/2012
11	AB90464	SB-13 (2-4)	SEDIMENT	01/31/2012
12	AB90465	SB-13 (12-14)	SEDIMENT	01/31/2012
13	AB90466	SB-14 (0-2)	SEDIMENT	01/31/2012
14	AB90467	SB-14 (12-14)	SEDIMENT	01/31/2012
15	AB90468	SB-15 (2-4)	SEDIMENT	01/31/2012
16	AB90469	SB-15 (16-18)	SEDIMENT	01/31/2012
17	AB90470	SB-16 (4-6)	SEDIMENT	02/01/2012
18	AB90471	SB-16 (17-19)	SEDIMENT	02/01/2012
19	AB90472	SB-17 (12-14)	SEDIMENT	02/01/2012
20	AB90473	SB-17 (4-6)	SEDIMENT	02/01/2012
21	AB90474	SB-18 (4-6)	SEDIMENT	02/01/2012
22	AB90475	SB-18 (13-15)	SEDIMENT	02/01/2012
23	AB90476	SB-19 (3-5)	SEDIMENT	02/01/2012
24	AB90477	SB-19 (10-12)	SEDIMENT	02/01/2012
25	AB90478	SB-20 (3-5)	SEDIMENT	02/01/2012
26	AB90479	SB-20 (10-12)	SEDIMENT	02/01/2012
27	AB90480	TB-1	SEDIMENT	01/23/2012



**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY**

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90454 SB-8 (6-8)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	82.6			
SURROGATE	#Nitrobenzene - D5#	78.8			
SURROGATE	#p-Terphenyl-d14#	109			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/04/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.24			
SURROGATE	#Bromofluorobenzene#	115			
SURROGATE	#Dibromofluoromethane#	115			
SURROGATE	#Toluene-d8#	110			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90454 SB-8 (6-8)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/04/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90454 SB-8 (6-8)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.6	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.3	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90455 SB-8 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	81.8			
SURROGATE	#Nitrobenzene - D5#	78.2			
SURROGATE	#p-Terphenyl-d14#	114			
91-57-6	2-Methylnaphthalene	Not Detected	580		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.21			
SURROGATE	#Bromofluorobenzene#	79.7			
SURROGATE	#Dibromofluoromethane#	82.0			
SURROGATE	#Toluene-d8#	94.5			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	64		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	64		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	64		50
71-43-2	Benzene	Not Detected	64		50
100-41-4	Ethylbenzene	Not Detected	64		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	Not Detected	64		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90455 SB-8 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	64		50

Sample Number: AB90455 SB-8 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	7.9	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	86.8	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
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Sample Number: AB90456 SB-9 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	85.2			
SURROGATE	#Nitrobenzene - D5#	84.8			
SURROGATE	#p-Terphenyl-d14#	108			
91-57-6	2-Methylnaphthalene	3200	2900		10
83-32-9	Acenaphthene	Not Detected	1100		10
208-96-8	Acenaphthylene	Not Detected	1100		10
120-12-7	Anthracene	910	1100	T	10
56-55-3	Benzo[a]anthracene	1600	1100		10
50-32-8	Benzo[a]pyrene	Not Detected	2300		10
205-99-2	Benzo[b]fluoranthene	2100	2300	T	10
191-24-2	Benzo[g,h,i]perylene	Not Detected	2300		10
207-08-9	Benzo[k]fluoranthene	Not Detected	2300		10
218-01-9	Chrysene	1300	1100		10
53-70-3	Dibenz[a,h]anthracene	Not Detected	2300		10
206-44-0	Fluoranthene	4200	1100		10
86-73-7	Fluorene	930	1100	T	10
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2300		10
91-20-3	Naphthalene	4100	1100		10
85-01-8	Phenanthrene	4400	1100		10
129-00-0	Pyrene	4300	1100		10

Probable petroleum product(s) present.
RLs raised due to matrix interference.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.59			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	8900	490		400
95-63-6	1,2,4-Trimethylbenzene	18000	490		400
108-67-8	1,3,5-Trimethylbenzene	7300	490		400
71-43-2	Benzene	Not Detected	490		400
100-41-4	Ethylbenzene	4400	490		400
108383,106423	m & p - Xylene	5200	980		400
1634-04-4	Methyltertiarybutylether	Not Detected	490		400

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
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Sample Number: AB90456 SB-9 (2-4)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	2500	490		400
108-88-3	Toluene	Not Detected	490		400

Unidentified peaks present in sample.

Sample Number: AB90456 SB-9 (2-4)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	28	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.5	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90457 SB-9 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	83.4			
SURROGATE	#Nitrobenzene - D5#	82.2			
SURROGATE	#p-Terphenyl-d14#	113			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.64			
SURROGATE	#Bromofluorobenzene#	90.0			
SURROGATE	#Dibromofluoromethane#	96.2			
SURROGATE	#Toluene-d8#	108			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	65		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	65		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50
95-47-6	o-xylene	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90457 SB-9 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	65		50

Sample Number: AB90457 SB-9 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.8	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.3	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90458 SB-10 (6-8)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	81.8			
SURROGATE	#Nitrobenzene - D5#	84.2			
SURROGATE	#p-Terphenyl-d14#	104			
91-57-6	2-Methylnaphthalene	Not Detected	590		2.0
83-32-9	Acenaphthene	Not Detected	240		2.0
208-96-8	Acenaphthylene	Not Detected	240		2.0
120-12-7	Anthracene	Not Detected	240		2.0
56-55-3	Benzo[a]anthracene	Not Detected	240		2.0
50-32-8	Benzo[a]pyrene	Not Detected	470		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	470		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	470		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	470		2.0
218-01-9	Chrysene	Not Detected	240		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	470		2.0
206-44-0	Fluoranthene	Not Detected	240		2.0
86-73-7	Fluorene	Not Detected	240		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	470		2.0
91-20-3	Naphthalene	Not Detected	240		2.0
85-01-8	Phenanthrene	Not Detected	240		2.0
129-00-0	Pyrene	Not Detected	240		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.71			
SURROGATE	#Bromofluorobenzene#	96.2			
SURROGATE	#Dibromofluoromethane#	95.9			
SURROGATE	#Toluene-d8#	115			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	70		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	70		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	70		50
71-43-2	Benzene	Not Detected	70		50
100-41-4	Ethylbenzene	Not Detected	70		50
108383,106423	m & p - Xylene	Not Detected	140		50
1634-04-4	Methyltertiarybutylether	Not Detected	70		50
95-47-6	o-xylene	Not Detected	70		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90458 SB-10 (6-8)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	70		50

Unidentified peaks present in sample.

Sample Number: AB90458 SB-10 (6-8)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	8.1	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	84.3	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90459 SB-10 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/16/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	87.4			
SURROGATE	#Nitrobenzene - D5#	87.2			
SURROGATE	#p-Terphenyl-d14#	110			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/06/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/03/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.72			
SURROGATE	#Bromofluorobenzene#	85.5			
SURROGATE	#Dibromofluoromethane#	84.6			
SURROGATE	#Toluene-d8#	95.6			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	66		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	66		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	66		50
71-43-2	Benzene	Not Detected	66		50
100-41-4	Ethylbenzene	Not Detected	66		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	66		50
95-47-6	o-xylene	Not Detected	66		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90459 SB-10 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	66		50

Sample Number: AB90459 SB-10 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	8.6	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.7	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90460 SB-11 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	81.8			
SURROGATE	#Nitrobenzene - D5#	77.2			
SURROGATE	#p-Terphenyl-d14#	120			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.12			
SURROGATE	#Bromofluorobenzene#	92.2			
SURROGATE	#Dibromofluoromethane#	91.8			
SURROGATE	#Toluene-d8#	107			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	64		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	64		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	64		50
71-43-2	Benzene	Not Detected	64		50
100-41-4	Ethylbenzene	Not Detected	64		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	Not Detected	64		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90460 SB-11 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	64		50

Sample Number: AB90460 SB-11 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	7.6	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.2	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/07/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90461 SB-11 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	67.4			
SURROGATE	#Nitrobenzene - D5#	63.3			
SURROGATE	#p-Terphenyl-d14#	88.4			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/08/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.19			
SURROGATE	#Bromofluorobenzene#	121			
SURROGATE	#Dibromofluoromethane#	122			
SURROGATE	#Toluene-d8#	116			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90461 SB-11 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/08/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90461 SB-11 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.6	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.2	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90462 SB-12 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/23/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/12/2012 Qualifier:

Table with 6 columns: CAS #, Compound, Result ug/Kg dry, RL, Qualifier, Dilution Factor. Lists various hydrocarbons like Fluorobiphenyl, Nitrobenzene, Terphenyl, etc., with their respective results and limits.

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/08/2012 Analyst: SJR
Extraction Method: 5035 Extraction Date: 02/03/2012 Qualifier:

Table with 6 columns: CAS #, Compound, Result ug/Kg dry, RL, Qualifier, Dilution Factor. Lists compounds like Bromofluorobenzene, Dibromofluoromethane, Toluene, etc., with their results.

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
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Sample Number: AB90462 SB-12 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/08/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90462 SB-12 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.9	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.4	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90463 SB-12 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	76.6			
SURROGATE	#Nitrobenzene - D5#	70.3			
SURROGATE	#p-Terphenyl-d14#	89.8			
91-57-6	2-Methylnaphthalene	Not Detected	560		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/08/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	8.97			
SURROGATE	#Bromofluorobenzene#	132			
SURROGATE	#Dibromofluoromethane#	131			
SURROGATE	#Toluene-d8#	127			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	69		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	69		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	69		50
71-43-2	Benzene	Not Detected	69		50
100-41-4	Ethylbenzene	Not Detected	69		50
108383,106423	m & p - Xylene	Not Detected	140		50
1634-04-4	Methyltertiarybutylether	Not Detected	69		50
95-47-6	o-xylene	Not Detected	69		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
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Sample Number: AB90463 SB-12 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/08/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	69		50

Sample Number: AB90463 SB-12 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.5	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.6	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90464 SB-13 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	73.4			
SURROGATE	#Nitrobenzene - D5#	83.0			
SURROGATE	#p-Terphenyl-d14#	88.9			
91-57-6	2-Methylnaphthalene	13000	2800		10
83-32-9	Acenaphthene	110	110		1.0
208-96-8	Acenaphthylene	Not Detected	110		1.0
120-12-7	Anthracene	Not Detected	110		1.0
56-55-3	Benzo[a]anthracene	Not Detected	110		1.0
50-32-8	Benzo[a]pyrene	Not Detected	230		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	230		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	230		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	230		1.0
218-01-9	Chrysene	Not Detected	110		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	230		1.0
206-44-0	Fluoranthene	170	110		1.0
86-73-7	Fluorene	150	110		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	230		1.0
91-20-3	Naphthalene	7500	1100		10
85-01-8	Phenanthrene	220	110		1.0
129-00-0	Pyrene	150	110		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/08/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.74			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	29000	2600		2000
95-63-6	1,2,4-Trimethylbenzene	130000	2600		2000
108-67-8	1,3,5-Trimethylbenzene	41000	2600		2000
71-43-2	Benzene	Not Detected	2600		2000
100-41-4	Ethylbenzene	18000	2600		2000
108383,106423	m & p - Xylene	78000	5200		2000
1634-04-4	Methyltertiarybutylether	Not Detected	2600		2000
95-47-6	o-xylene	32000	2600		2000

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

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 Lansing, MI 48909
 TEL: (517) 335-9800
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Sample Number: AB90464 SB-13 (2-4)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/08/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	44000	2600		2000

Unidentified peaks present in sample.

Sample Number: AB90464 SB-13 (2-4)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	2.3	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.4	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90465 SB-13 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	73.7			
SURROGATE	#Nitrobenzene - D5#	68.8			
SURROGATE	#p-Terphenyl-d14#	101			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/08/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	9.99			
SURROGATE	#Bromofluorobenzene#	120			
SURROGATE	#Dibromofluoromethane#	123			
SURROGATE	#Toluene-d8#	120			
526-73-8	1,2,3-Trimethylbenzene	65	65		50
95-63-6	1,2,4-Trimethylbenzene	280	65		50
108-67-8	1,3,5-Trimethylbenzene	95	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	140	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50
95-47-6	o-xylene	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90465 SB-13 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/08/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	90	65		50

Sample Number: AB90465 SB-13 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.7	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.2	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90466 SB-14 (0-2)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	78.9			
SURROGATE	#Nitrobenzene - D5#	84.8			
SURROGATE	#p-Terphenyl-d14#	98.2			
91-57-6	2-Methylnaphthalene	5700	280		1.0
83-32-9	Acenaphthene	330	110		1.0
208-96-8	Acenaphthylene	Not Detected	110		1.0
120-12-7	Anthracene	230	110		1.0
56-55-3	Benzo[a]anthracene	420	110		1.0
50-32-8	Benzo[a]pyrene	370	220		1.0
205-99-2	Benzo[b]fluoranthene	480	220		1.0
191-24-2	Benzo[g,h,i]perylene	240	220		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	220		1.0
218-01-9	Chrysene	430	110		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	220		1.0
206-44-0	Fluoranthene	1000	110		1.0
86-73-7	Fluorene	460	110		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	280	220		1.0
91-20-3	Naphthalene	1300	110		1.0
85-01-8	Phenanthrene	1100	110		1.0
129-00-0	Pyrene	1000	110		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.37			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	3500	470		400
95-63-6	1,2,4-Trimethylbenzene	7500	470		400
108-67-8	1,3,5-Trimethylbenzene	2700	470		400
71-43-2	Benzene	Not Detected	470		400
100-41-4	Ethylbenzene	Not Detected	470		400
108383,106423	m & p - Xylene	2000	950		400
1634-04-4	Methyltertiarybutylether	Not Detected	470		400
95-47-6	o-xylene	890	470		400

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
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Sample Number: AB90466 SB-14 (0-2)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	470		400

Unidentified peaks present in sample.

Sample Number: AB90466 SB-14 (0-2)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	12	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	89.9	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90467 SB-14 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	76.6			
SURROGATE	#Nitrobenzene - D5#	71.0			
SURROGATE	#p-Terphenyl-d14#	93.0			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.41			
SURROGATE	#Bromofluorobenzene#	104			
SURROGATE	#Dibromofluoromethane#	108			
SURROGATE	#Toluene-d8#	106			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	190	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90467 SB-14 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90467 SB-14 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.6	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.9	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90468 SB-15 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	65.7			
SURROGATE	#Nitrobenzene - D5#	63.6			
SURROGATE	#p-Terphenyl-d14#	86.6			
91-57-6	2-Methylnaphthalene	Not Detected	290		1.0
83-32-9	Acenaphthene	Not Detected	110		1.0
208-96-8	Acenaphthylene	Not Detected	110		1.0
120-12-7	Anthracene	Not Detected	110		1.0
56-55-3	Benzo[a]anthracene	Not Detected	110		1.0
50-32-8	Benzo[a]pyrene	Not Detected	230		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	230		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	230		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	230		1.0
218-01-9	Chrysene	Not Detected	110		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	230		1.0
206-44-0	Fluoranthene	Not Detected	110		1.0
86-73-7	Fluorene	Not Detected	110		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	230		1.0
91-20-3	Naphthalene	Not Detected	110		1.0
85-01-8	Phenanthrene	Not Detected	110		1.0
129-00-0	Pyrene	Not Detected	110		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.31			
SURROGATE	#Bromofluorobenzene#	117			
SURROGATE	#Dibromofluoromethane#	119			
SURROGATE	#Toluene-d8#	114			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 Lansing, MI 48909
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 FAX: (517) 335-9600

Sample Number: AB90468 SB-15 (2-4)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90468 SB-15 (2-4)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	1.8	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.7	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90469 SB-15 (16-18)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	60.1			
SURROGATE	#Nitrobenzene - D5#	57.5			
SURROGATE	#p-Terphenyl-d14#	82.0			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.46			
SURROGATE	#Bromofluorobenzene#	119			
SURROGATE	#Dibromofluoromethane#	122			
SURROGATE	#Toluene-d8#	116			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50
95-47-6	o-xylene	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90469 SB-15 (16-18)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90469 SB-15 (16-18)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.4	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	88.0	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90470 SB-16 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	66.4			
SURROGATE	#Nitrobenzene - D5#	Not Applicable		V	
SURROGATE	#p-Terphenyl-d14#	83.0			
91-57-6	2-Methylnaphthalene	51000	15000		50
83-32-9	Acenaphthene	Not Detected	610		5.0
208-96-8	Acenaphthylene	Not Detected	610		5.0
120-12-7	Anthracene	Not Detected	610		5.0
56-55-3	Benzo[a]anthracene	Not Detected	610		5.0
50-32-8	Benzo[a]pyrene	Not Detected	1200		5.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1200		5.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1200		5.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1200		5.0
218-01-9	Chrysene	Not Detected	610		5.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	1200		5.0
206-44-0	Fluoranthene	870	610		5.0
86-73-7	Fluorene	1200	610		5.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	1200		5.0
91-20-3	Naphthalene	Not Detected	610		5.0
85-01-8	Phenanthrene	670	610		5.0
129-00-0	Pyrene	870	610		5.0

RLs raised due to matrix interference.
Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	5.99			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	1100	1100		500
95-63-6	1,2,4-Trimethylbenzene	1900	1100		500
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1100		500
71-43-2	Benzene	Not Detected	1100		500
100-41-4	Ethylbenzene	Not Detected	1100		500
108383,106423	m & p - Xylene	Not Detected	2200		500
1634-04-4	Methyltertiarybutylether	Not Detected	1100		500

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90470 SB-16 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	1100		500
108-88-3	Toluene	Not Detected	1100		500

Unidentified peaks present in sample.

Sample Number: AB90470 SB-16 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	35	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	82.5	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90471 SB-16 (17-19)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	55.6			
SURROGATE	#Nitrobenzene - D5#	54.2			
SURROGATE	#p-Terphenyl-d14#	78.6			
91-57-6	2-Methylnaphthalene	Not Detected	3000		10
83-32-9	Acenaphthene	Not Detected	1200		10
208-96-8	Acenaphthylene	Not Detected	1200		10
120-12-7	Anthracene	Not Detected	1200		10
56-55-3	Benzo[a]anthracene	3900	1200		10
50-32-8	Benzo[a]pyrene	3700	2400		10
205-99-2	Benzo[b]fluoranthene	5000	2400		10
191-24-2	Benzo[g,h,i]perylene	2200	2400	T	10
207-08-9	Benzo[k]fluoranthene	Not Detected	2400		10
218-01-9	Chrysene	3500	1200		10
53-70-3	Dibenz[a,h]anthracene	Not Detected	2400		10
206-44-0	Fluoranthene	7400	1200		10
86-73-7	Fluorene	Not Detected	1200		10
193-39-5	Indeno(1,2,3-c,d)pyrene	2800	2400		10
91-20-3	Naphthalene	Not Detected	1200		10
85-01-8	Phenanthrene	2800	1200		10
129-00-0	Pyrene	6800	1200		10

RLs raised due to matrix interference.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.62			
SURROGATE	#Bromofluorobenzene#	113			
SURROGATE	#Dibromofluoromethane#	115			
SURROGATE	#Toluene-d8#	112			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	72		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	72		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	72		50
71-43-2	Benzene	Not Detected	72		50
100-41-4	Ethylbenzene	Not Detected	72		50
108383,106423	m & p - Xylene	Not Detected	140		50
1634-04-4	Methyltertiarybutylether	Not Detected	72		50
95-47-6	o-xylene	Not Detected	72		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90471 SB-16 (17-19)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	72		50

Sample Number: AB90471 SB-16 (17-19)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	13	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	83.5	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90472 SB-17 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	67.0			
SURROGATE	#Nitrobenzene - D5#	63.6			
SURROGATE	#p-Terphenyl-d14#	83.3			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.04			
SURROGATE	#Bromofluorobenzene#	126			
SURROGATE	#Dibromofluoromethane#	119			
SURROGATE	#Toluene-d8#	124			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	64		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	64		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	64		50
71-43-2	Benzene	Not Detected	64		50
100-41-4	Ethylbenzene	Not Detected	64		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	Not Detected	64		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90472 SB-17 (12-14)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	64		50

Sample Number: AB90472 SB-17 (12-14)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/09/2012	3050	TB
7439-92-1	Lead - Sediment	6.3	mg/Kg dry	1		02/13/2012	6020	TK
	% Total Solids	87.7	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90473 SB-17 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	67.3			
SURROGATE	#Nitrobenzene - D5#	62.3			
SURROGATE	#p-Terphenyl-d14#	89.4			
91-57-6	2-Methylnaphthalene	Not Detected	290		1.0
83-32-9	Acenaphthene	Not Detected	120		1.0
208-96-8	Acenaphthylene	Not Detected	120		1.0
120-12-7	Anthracene	Not Detected	120		1.0
56-55-3	Benzo[a]anthracene	Not Detected	120		1.0
50-32-8	Benzo[a]pyrene	Not Detected	230		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	230		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	230		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	230		1.0
218-01-9	Chrysene	Not Detected	120		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	230		1.0
206-44-0	Fluoranthene	Not Detected	120		1.0
86-73-7	Fluorene	Not Detected	120		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	230		1.0
91-20-3	Naphthalene	Not Detected	120		1.0
85-01-8	Phenanthrene	Not Detected	120		1.0
129-00-0	Pyrene	Not Detected	120		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.22			
SURROGATE	#Bromofluorobenzene#	116			
SURROGATE	#Dibromofluoromethane#	120			
SURROGATE	#Toluene-d8#	115			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	65		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	65		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50
95-47-6	o-xylene	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90473 SB-17 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	65		50

Sample Number: AB90473 SB-17 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	2.4	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	86.1	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90474 SB-18 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	60.9			
SURROGATE	#Nitrobenzene - D5#	56.6			
SURROGATE	#p-Terphenyl-d14#	87.9			
91-57-6	2-Methylnaphthalene	Not Detected	290		1.0
83-32-9	Acenaphthene	Not Detected	110		1.0
208-96-8	Acenaphthylene	Not Detected	110		1.0
120-12-7	Anthracene	Not Detected	110		1.0
56-55-3	Benzo[a]anthracene	Not Detected	110		1.0
50-32-8	Benzo[a]pyrene	Not Detected	230		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	230		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	230		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	230		1.0
218-01-9	Chrysene	Not Detected	110		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	230		1.0
206-44-0	Fluoranthene	Not Detected	110		1.0
86-73-7	Fluorene	Not Detected	110		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	230		1.0
91-20-3	Naphthalene	Not Detected	110		1.0
85-01-8	Phenanthrene	Not Detected	110		1.0
129-00-0	Pyrene	Not Detected	110		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.54			
SURROGATE	#Bromofluorobenzene#	118			
SURROGATE	#Dibromofluoromethane#	120			
SURROGATE	#Toluene-d8#	115			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90474 SB-18 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90474 SB-18 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	2.0	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	87.3	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90475 SB-18 (13-15)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	53.1			
SURROGATE	#Nitrobenzene - D5#	49.8			
SURROGATE	#p-Terphenyl-d14#	70.8			
91-57-6	2-Methylnaphthalene	Not Detected	560		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.18			
SURROGATE	#Bromofluorobenzene#	122			
SURROGATE	#Dibromofluoromethane#	125			
SURROGATE	#Toluene-d8#	118			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
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Sample Number: AB90475 SB-18 (13-15)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90475 SB-18 (13-15)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	5.5	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	88.5	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90476 SB-19 (3-5)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	71.1			
SURROGATE	#Nitrobenzene - D5#	66.8			
SURROGATE	#p-Terphenyl-d14#	87.9			
91-57-6	2-Methylnaphthalene	3000	590		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	470		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	470		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	470		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	470		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	470		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	240	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	470		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	11.01			
SURROGATE	#Bromofluorobenzene#	121			
SURROGATE	#Dibromofluoromethane#	119			
SURROGATE	#Toluene-d8#	115			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	67		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	67		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	67		50
71-43-2	Benzene	Not Detected	67		50
100-41-4	Ethylbenzene	Not Detected	67		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	67		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 Lansing, MI 48909
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Sample Number: AB90476 SB-19 (3-5)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	67		50
108-88-3	Toluene	Not Detected	67		50

Unidentified peaks present in sample.

Sample Number: AB90476 SB-19 (3-5)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	6.4	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	85.4	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90477 SB-19 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	62.5			
SURROGATE	#Nitrobenzene - D5#	60.2			
SURROGATE	#p-Terphenyl-d14#	78.7			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.79			
SURROGATE	#Bromofluorobenzene#	102			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	100			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	64		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	64		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	64		50
71-43-2	Benzene	Not Detected	64		50
100-41-4	Ethylbenzene	Not Detected	64		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	Not Detected	64		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90477 SB-19 (10-12)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/07/2012
Extraction Date: 02/03/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	64		50

Sample Number: AB90477 SB-19 (10-12)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	5.9	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	88.2	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90478 SB-20 (3-5)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	96.6			
SURROGATE	#Nitrobenzene - D5#	95.6			
SURROGATE	#p-Terphenyl-d14#	102			
91-57-6	2-Methylnaphthalene	11000	580		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	460	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	3400	230		2.0
85-01-8	Phenanthrene	300	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.45			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	1700	500		400
95-63-6	1,2,4-Trimethylbenzene	2900	500		400
108-67-8	1,3,5-Trimethylbenzene	1600	500		400
71-43-2	Benzene	610	500		400
100-41-4	Ethylbenzene	1800	500		400
108383,106423	m & p - Xylene	Not Detected	1000		400
1634-04-4	Methyltertiarybutylether	Not Detected	500		400

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90478 SB-20 (3-5)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	500		400
108-88-3	Toluene	Not Detected	500		400

Unidentified peaks present in sample.

Sample Number: AB90478 SB-20 (3-5)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	7.5	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	86.7	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
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Sample Number: AB90479 SB-20 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/24/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/12/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	68.2			
SURROGATE	#Nitrobenzene - D5#	67.0			
SURROGATE	#p-Terphenyl-d14#	80.0			
91-57-6	2-Methylnaphthalene	Not Detected	560		2.0
83-32-9	Acenaphthene	Not Detected	220		2.0
208-96-8	Acenaphthylene	Not Detected	220		2.0
120-12-7	Anthracene	Not Detected	220		2.0
56-55-3	Benzo[a]anthracene	Not Detected	220		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	220		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	220		2.0
86-73-7	Fluorene	Not Detected	220		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	220		2.0
85-01-8	Phenanthrene	Not Detected	220		2.0
129-00-0	Pyrene	Not Detected	220		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.47			
SURROGATE	#Bromofluorobenzene#	123			
SURROGATE	#Dibromofluoromethane#	124			
SURROGATE	#Toluene-d8#	119			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	60		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	60		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	60		50
71-43-2	Benzene	Not Detected	60		50
100-41-4	Ethylbenzene	Not Detected	60		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	60		50
95-47-6	o-xylene	Not Detected	60		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90479 SB-20 (10-12)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
108-88-3	Toluene	Not Detected	60		50

Sample Number: AB90479 SB-20 (10-12)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	5.3	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	89.1	%	0.1		02/06/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/06/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/15/2012	3640	DT

Sample Number: AB90480 TB-1

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/08/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/03/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.00			
SURROGATE	#Bromofluorobenzene#	108			
SURROGATE	#Dibromofluoromethane#	108			
SURROGATE	#Toluene-d8#	104			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	50		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	50		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	50		50
71-43-2	Benzene	Not Detected	50		50
100-41-4	Ethylbenzene	Not Detected	50		50
108383,106423	m & p - Xylene	Not Detected	100		50
1634-04-4	Methyltertiarybutylether	Not Detected	50		50
95-47-6	o-xylene	Not Detected	50		50
108-88-3	Toluene	Not Detected	50		50

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

Sample Number: AB90480 TB-1

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		02/06/2012	2540B SM	JW

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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 Systems Mgmt Unit: George Krisztian



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Lansing, MI 48909
TEL: (517) 335-9800
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Division: RD
Report to: PEWU BAH-DEH
MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order # : 20100214
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 01/31/2012
Reported: 02/28/2012
Collected By: RON FRIEND

Total: \$4,661.50

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90289	SB-1 (4-6)	SEDIMENT	01/30/2012
02	AB90290	SB-1 (10-12)	SEDIMENT	01/30/2012
03	AB90291	SB-2 (4-6)	SEDIMENT	01/30/2012
04	AB90292	SB-2 (14-16)	SEDIMENT	01/30/2012
05	AB90293	SB-3 (2-4)	SEDIMENT	01/30/2012
06	AB90294	SB-3 (8-10)	SEDIMENT	01/30/2012
07	AB90295	SB-4 (6-8)	SEDIMENT	01/30/2012
08	AB90296	SB-4 (14-16)	SEDIMENT	01/30/2012
09	AB90297	SB-5 (10-12)	SEDIMENT	01/30/2012
10	AB90298	SB-5 (16-18)	SEDIMENT	01/30/2012
11	AB90299	SB-6 (14-16)	SEDIMENT	01/30/2012
12	AB90300	SB-6 (6-8)	SEDIMENT	01/30/2012
13	AB90301	SB-7 (4-6)	SEDIMENT	01/30/2012
14	AB90302	SB-7 (12-14)	SEDIMENT	01/30/2012
15	AB90303	TB-3	SEDIMENT	01/23/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



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Sample Number: AB90289 SB-1 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	91.3			
SURROGATE	#Nitrobenzene - D5#	68.7			
SURROGATE	#p-Terphenyl-d14#	107			
91-57-6	2-Methylnaphthalene	Not detected	580		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	460		2
205-99-2	Benzo[b]fluoranthene	Not detected	460		2
191-24-2	Benzo[g,h,i]perylene	Not detected	460		2
207-08-9	Benzo[k]fluoranthene	Not detected	460		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	460		2
206-44-0	Fluoranthene	190	230	T	2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	460		2
91-20-3	Naphthalene	420	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	230	230		2

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/06/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.37			
SURROGATE	#Bromofluorobenzene#	91.4			
SURROGATE	#Dibromofluoromethane#	81.5			
SURROGATE	#Toluene-d8#	105			
526-73-8	1,2,3-Trimethylbenzene	1300	64		50
95-63-6	1,2,4-Trimethylbenzene	2200	64		50
108-67-8	1,3,5-Trimethylbenzene	580	64		50
71-43-2	Benzene	310	64		50
100-41-4	Ethylbenzene	470	64		50
108383,106423	m & p - Xylene	940	130		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90289 SB-1 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	270	64		50
108-88-3	Toluene	230	64		50

Unidentified peaks present in sample.

Sample Number: AB90289 SB-1 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	12	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	86.1	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90290 SB-1 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	74.5			
SURROGATE	#Nitrobenzene - D5#	74.4			
SURROGATE	#p-Terphenyl-d14#	89.5			
91-57-6	2-Methylnaphthalene	Not detected	560		2
83-32-9	Acenaphthene	Not detected	220		2
208-96-8	Acenaphthylene	Not detected	220		2
120-12-7	Anthracene	Not detected	220		2
56-55-3	Benzo[a]anthracene	Not detected	220		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	220		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	220		2
86-73-7	Fluorene	Not detected	220		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	220		2
85-01-8	Phenanthrene	Not detected	220		2
129-00-0	Pyrene	Not detected	220		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/02/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.68			
SURROGATE	#Bromofluorobenzene#	92.3			
SURROGATE	#Dibromofluoromethane#	80.2			
SURROGATE	#Toluene-d8#	95.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	64		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	64		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	64		50
71-43-2	Benzene	Not Detected	64		50
100-41-4	Ethylbenzene	Not Detected	64		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
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Sample Number: AB90291 SB-2 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	75.9			
SURROGATE	#Nitrobenzene - D5#	68.8			
SURROGATE	#p-Terphenyl-d14#	89.6			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/02/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.15			
SURROGATE	#Bromofluorobenzene#	89.4			
SURROGATE	#Dibromofluoromethane#	83.6			
SURROGATE	#Toluene-d8#	96.1			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	63		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	63		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	63		50
71-43-2	Benzene	Not Detected	63		50
100-41-4	Ethylbenzene	Not Detected	63		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	63		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
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Sample Number: AB90292 SB-2 (14-16)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	71.1			
SURROGATE	#Nitrobenzene - D5#	68.5			
SURROGATE	#p-Terphenyl-d14#	86.5			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	460		2
205-99-2	Benzo[b]fluoranthene	Not detected	460		2
191-24-2	Benzo[g,h,i]perylene	Not detected	460		2
207-08-9	Benzo[k]fluoranthene	Not detected	460		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	460		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	460		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.42			
SURROGATE	#Bromofluorobenzene#	88.1			
SURROGATE	#Dibromofluoromethane#	81.5			
SURROGATE	#Toluene-d8#	94.3			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90292 SB-2 (14-16)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result	ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected		62		50
108-88-3	Toluene	Not Detected		62		50

Sample Number: AB90292 SB-2 (14-16)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	6.2	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	87.7	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90293 SB-3 (2-4)

Diesel Range and Oil Range Organics

Analytical Method: 8015 **Date Tested:** 02/10/2012 **Analyst:** JRS
Extraction Method: 3545 **Extraction Date:** 02/09/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#n-Eicosane#	Not Applicable		V	
	Diesel Range Organics (C10-C20)	500000	29000		1.0
	Oil Range Organics (C20-C34)	3500000	120000		1.0

DRO results may also include non-diesel organic compounds.
ORO results may also include non-oil organic compounds.

Gasoline Range Organics

Analytical Method: 8260Modified **Date Tested:** 02/03/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.50			
	Gasoline Range Organics (C6-C10)	710000	26000		200

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	86.0			
SURROGATE	#Nitrobenzene - D5#	73.8			
SURROGATE	#p-Terphenyl-d14#	94.8			
91-57-6	2-Methylnaphthalene	Not detected	2900		10
83-32-9	Acenaphthene	3300	1200		10
208-96-8	Acenaphthylene	Not detected	1200		10
120-12-7	Anthracene	5700	1200		10
56-55-3	Benzo[a]anthracene	12000	1200		10
50-32-8	Benzo[a]pyrene	11000	2300		10
205-99-2	Benzo[b]fluoranthene	14000	2300		10
191-24-2	Benzo[g,h,i]perylene	6500	2300		10
207-08-9	Benzo[k]fluoranthene	4200	2300		10
218-01-9	Chrysene	12000	1200		10
53-70-3	Dibenz[a,h]anthracene	Not detected	2300		10
206-44-0	Fluoranthene	28000	1200		10
86-73-7	Fluorene	4100	1200		10
193-39-5	Indeno(1,2,3-c,d)pyrene	6400	2300		10
91-20-3	Naphthalene	1400	1200		10

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90293 SB-3 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
85-01-8	Phenanthrene	19000	1200		10
129-00-0	Pyrene	24000	1200		10

RLs raised due to matrix interference.
Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/06/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.50			
SURROGATE	#Bromofluorobenzene#	106			
SURROGATE	#Dibromofluoromethane#	90.5			
SURROGATE	#Toluene-d8#	123			
526-73-8	1,2,3-Trimethylbenzene	170	64		50
95-63-6	1,2,4-Trimethylbenzene	540	64		50
108-67-8	1,3,5-Trimethylbenzene	84	64		50
71-43-2	Benzene	77	64		50
100-41-4	Ethylbenzene	1000	64		50
108383,106423	m & p - Xylene	600	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	64		50
95-47-6	o-xylene	170	64		50
108-88-3	Toluene	180	64		50

Unidentified peaks present in sample.

Sample Number: AB90293 SB-3 (2-4)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	50	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	85.5	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90294 SB-3 (8-10)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	71.4			
SURROGATE	#Nitrobenzene - D5#	67.8			
SURROGATE	#p-Terphenyl-d14#	90.3			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/02/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.55			
SURROGATE	#Bromofluorobenzene#	87.9			
SURROGATE	#Dibromofluoromethane#	79.2			
SURROGATE	#Toluene-d8#	92.5			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	60		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	60		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	60		50
71-43-2	Benzene	Not Detected	60		50
100-41-4	Ethylbenzene	Not Detected	60		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	60		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90294 SB-3 (8-10)

BTEX/MTBE/TMB

Analytical Method: 8260
 Extraction Method: 5035

Date Tested: 02/02/2012
 Extraction Date: 02/01/2012

Analyst: KCL
 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	60		50
108-88-3	Toluene	Not Detected	60		50

Sample Number: AB90294 SB-3 (8-10)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	6.8	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	88.4	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90295 SB-4 (6-8)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	75.3			
SURROGATE	#Nitrobenzene - D5#	77.3			
SURROGATE	#p-Terphenyl-d14#	90.5			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	460		2
205-99-2	Benzo[b]fluoranthene	Not detected	460		2
191-24-2	Benzo[g,h,i]perylene	Not detected	460		2
207-08-9	Benzo[k]fluoranthene	Not detected	460		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	460		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	460		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.57			
SURROGATE	#Bromofluorobenzene#	90.8			
SURROGATE	#Dibromofluoromethane#	78.3			
SURROGATE	#Toluene-d8#	93.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90295 SB-4 (6-8)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	61		50
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90295 SB-4 (6-8)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	5.8	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	87.8	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90296 SB-4 (14-16)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	76.6			
SURROGATE	#Nitrobenzene - D5#	74.2			
SURROGATE	#p-Terphenyl-d14#	92.1			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.71			
SURROGATE	#Bromofluorobenzene#	94.3			
SURROGATE	#Dibromofluoromethane#	89.4			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	65		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	65		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90296 SB-4 (14-16)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	65		50
108-88-3	Toluene	Not Detected	65		50

Sample Number: AB90296 SB-4 (14-16)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	6.1	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	88.3	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90297 SB-5 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	88.4			
SURROGATE	#Nitrobenzene - D5#	86.0			
SURROGATE	#p-Terphenyl-d14#	92.8			
91-57-6	2-Methylnaphthalene	Not detected	1500		5
83-32-9	Acenaphthene	Not detected	590		5
208-96-8	Acenaphthylene	Not detected	590		5
120-12-7	Anthracene	Not detected	590		5
56-55-3	Benzo[a]anthracene	Not detected	590		5
50-32-8	Benzo[a]pyrene	Not detected	1200		5
205-99-2	Benzo[b]fluoranthene	Not detected	1200		5
191-24-2	Benzo[g,h,i]perylene	Not detected	1200		5
207-08-9	Benzo[k]fluoranthene	Not detected	1200		5
218-01-9	Chrysene	Not detected	590		5
53-70-3	Dibenz[a,h]anthracene	Not detected	1200		5
206-44-0	Fluoranthene	Not detected	590		5
86-73-7	Fluorene	Not detected	590		5
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	1200		5
91-20-3	Naphthalene	1700	590		5
85-01-8	Phenanthrene	Not detected	590		5
129-00-0	Pyrene	Not detected	590		5

RLs raised due to matrix interference.
Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.42			
SURROGATE	#Bromofluorobenzene#	89.2			
SURROGATE	#Dibromofluoromethane#	82.6			
SURROGATE	#Toluene-d8#	105			
526-73-8	1,2,3-Trimethylbenzene	1300	66		50
95-63-6	1,2,4-Trimethylbenzene	5200	66		50
108-67-8	1,3,5-Trimethylbenzene	550	66		50
71-43-2	Benzene	230	66		50
100-41-4	Ethylbenzene	1600	66		50
108383,106423	m & p - Xylene	1400	130		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
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Sample Number: AB90297 SB-5 (10-12)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	66		50
95-47-6	o-xylene	580	66		50
108-88-3	Toluene	Not Detected	66		50

Unidentified peaks present in sample.

Sample Number: AB90297 SB-5 (10-12)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	12	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	84.7	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number	ug / L : microgram / liter (ppb)	Laboratory Contacts
RL : Reporting Limit	mg / L : milligram / liter (ppm)	Inorganic Unit Mgr: Kirby Shane
ND : Not Detected	ug / Kg : microgram / kilogram (ppb)	Organic Unit Mgr: Carol Smith
	mg / Kg : milligram / kilogram (ppm)	Systems Mgmt Unit: George Krisztian



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Sample Number: AB90298 SB-5 (16-18)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/20/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	68.5			
SURROGATE	#Nitrobenzene - D5#	66.6			
SURROGATE	#p-Terphenyl-d14#	79.1			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/02/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.55			
SURROGATE	#Bromofluorobenzene#	90.1			
SURROGATE	#Dibromofluoromethane#	83.0			
SURROGATE	#Toluene-d8#	91.6			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90298 SB-5 (16-18)

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/02/2012
Extraction Date: 02/01/2012

Analyst: KCL
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	61		50
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90298 SB-5 (16-18)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	5.6	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	87.9	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90299 SB-6 (14-16)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/20/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	68.2			
SURROGATE	#Nitrobenzene - D5#	63.5			
SURROGATE	#p-Terphenyl-d14#	75.0			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.49			
SURROGATE	#Bromofluorobenzene#	88.7			
SURROGATE	#Dibromofluoromethane#	80.9			
SURROGATE	#Toluene-d8#	92.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90299 SB-6 (14-16)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	62		50
108-88-3	Toluene	Not Detected	62		50

Sample Number: AB90299 SB-6 (14-16)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	5.6	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	87.2	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90300 SB-6 (6-8)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/20/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	64.0			
SURROGATE	#Nitrobenzene - D5#	58.1			
SURROGATE	#p-Terphenyl-d14#	72.7			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/02/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.42			
SURROGATE	#Bromofluorobenzene#	95.7			
SURROGATE	#Dibromofluoromethane#	95.0			
SURROGATE	#Toluene-d8#	106			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90301 SB-7 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/20/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/02/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	62.3			
SURROGATE	#Nitrobenzene - D5#	59.0			
SURROGATE	#p-Terphenyl-d14#	72.9			
91-57-6	2-Methylnaphthalene	640	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	430	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/06/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/01/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.77			
SURROGATE	#Bromofluorobenzene#	84.3			
SURROGATE	#Dibromofluoromethane#	80.0			
SURROGATE	#Toluene-d8#	108			
526-73-8	1,2,3-Trimethylbenzene	1400	65		50
95-63-6	1,2,4-Trimethylbenzene	1100	65		50
108-67-8	1,3,5-Trimethylbenzene	810	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	1200	65		50
108383,106423	m & p - Xylene	350	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90301 SB-7 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/06/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	65		50
108-88-3	Toluene	Not Detected	65		50

Unidentified peaks present in sample.

Sample Number: AB90301 SB-7 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/07/2012	3050	TB
7439-92-1	Lead - Sediment	6.0	mg/Kg dry	1		02/08/2012	6020	TK
	% Total Solids	88.2	%	0.1		02/01/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/01/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/02/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90302 SB-7 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/20/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/02/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	63.0			
SURROGATE	#Nitrobenzene - D5#	59.6			
SURROGATE	#p-Terphenyl-d14#	77.9			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/01/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.34			
SURROGATE	#Bromofluorobenzene#	89.9			
SURROGATE	#Dibromofluoromethane#	81.6			
SURROGATE	#Toluene-d8#	93.7			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90303 TB-3

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/02/2012
Extraction Date: 02/01/2012

Analyst: KCL
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.00			
SURROGATE	#Bromofluorobenzene#	80.1			
SURROGATE	#Dibromofluoromethane#	73.0			
SURROGATE	#Toluene-d8#	84.1			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	50		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	50		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	50		50
71-43-2	Benzene	Not Detected	50		50
100-41-4	Ethylbenzene	Not Detected	50		50
108383,106423	m & p - Xylene	Not Detected	100		50
1634-04-4	Methyltertiarybutylether	Not Detected	50		50
95-47-6	o-xylene	Not Detected	50		50
108-88-3	Toluene	Not Detected	50		50

Sample Number: AB90303 TB-3

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		02/01/2012	2540B SM	JW

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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 Inorganic Unit Mgr: Kirby Shane
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
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 FAX: (517) 335-9600

<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatiles organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY**

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Division: RD
Report to: PEWU BAH-DEH
MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order # : 20200022
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 02/03/2012
Reported: 02/28/2012
Collected By: RON FRIEND

Total: \$5,797.50

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90529	SB-21 (4-6)	SEDIMENT	02/01/2012
02	AB90530	SB-21 (10-12)	SEDIMENT	02/01/2012
03	AB90531	SB-22 (4-6)	SEDIMENT	02/01/2012
04	AB90532	SB-22 (10-12)	SEDIMENT	02/01/2012
05	AB90533	SB-23 (4-6)	SEDIMENT	02/01/2012
06	AB90534	SB-23 (12-14)	SEDIMENT	02/01/2012
07	AB90535	SB-24 (4-6)	SEDIMENT	02/02/2012
08	AB90536	SB-24 (10-12)	SEDIMENT	02/02/2012
09	AB90537	SB-25 (4-6)	SEDIMENT	02/02/2012
10	AB90538	SB-25 (10-12)	SEDIMENT	02/02/2012
11	AB90539	SB-26 (2-4)	SEDIMENT	02/02/2012
12	AB90540	SB-26 (12-14)	SEDIMENT	02/02/2012
13	AB90541	SB-27 (4-6)	SEDIMENT	02/02/2012
14	AB90542	SB-27 (14-16)	SEDIMENT	02/02/2012
15	AB90543	SB-28 (6-7)	SEDIMENT	02/02/2012
16	AB90544	SB-29 (9-10)	SEDIMENT	02/02/2012
17	AB90545	SB-30 (2-4)	SEDIMENT	02/02/2012
18	AB90546	SB-30 (9-10)	SEDIMENT	02/02/2012
19	AB90547	TB-2	SEDIMENT	01/23/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90529 SB-21 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	79.2			
SURROGATE	#Nitrobenzene - D5#	69.1			
SURROGATE	#p-Terphenyl-d14#	93.3			
91-57-6	2-Methylnaphthalene	1900	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	300	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.51			
SURROGATE	#Bromofluorobenzene#	93.7			
SURROGATE	#Dibromofluoromethane#	92.0			
SURROGATE	#Toluene-d8#	97.2			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Systems Mgmt Unit: George Krisztian



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90530 SB-21 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	76.8			
SURROGATE	#Nitrobenzene - D5#	70.3			
SURROGATE	#p-Terphenyl-d14#	86.2			
91-57-6	2-Methylnaphthalene	Not Detected	560		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.36			
SURROGATE	#Bromofluorobenzene#	90.2			
SURROGATE	#Dibromofluoromethane#	91.6			
SURROGATE	#Toluene-d8#	94.7			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90531 SB-22 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	75.0			
SURROGATE	#Nitrobenzene - D5#	70.4			
SURROGATE	#p-Terphenyl-d14#	89.9			
91-57-6	2-Methylnaphthalene	3700	580		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	2800	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.77			
SURROGATE	#Bromofluorobenzene#	95.2			
SURROGATE	#Dibromofluoromethane#	98.9			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	3500	67		50
95-63-6	1,2,4-Trimethylbenzene	15000	270		200
108-67-8	1,3,5-Trimethylbenzene	3500	67		50
71-43-2	Benzene	2400	67		50
100-41-4	Ethylbenzene	2500	67		50
108383,106423	m & p - Xylene	3500	130		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90532 SB-22 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	77.4			
SURROGATE	#Nitrobenzene - D5#	72.2			
SURROGATE	#p-Terphenyl-d14#	88.5			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.22			
SURROGATE	#Bromofluorobenzene#	88.6			
SURROGATE	#Dibromofluoromethane#	93.4			
SURROGATE	#Toluene-d8#	96.3			
526-73-8	1,2,3-Trimethylbenzene	120	63		50
95-63-6	1,2,4-Trimethylbenzene	460	63		50
108-67-8	1,3,5-Trimethylbenzene	120	63		50
71-43-2	Benzene	Not Detected	63		50
100-41-4	Ethylbenzene	81	63		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	63		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90533 SB-23 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/20/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	Not Applicable		V	
SURROGATE	#Nitrobenzene - D5#	Not Applicable		V	
SURROGATE	#p-Terphenyl-d14#	Not Applicable		V	
91-57-6	2-Methylnaphthalene	13000	14000	T	50
83-32-9	Acenaphthene	Not Detected	5600		50
208-96-8	Acenaphthylene	Not Detected	5600		50
120-12-7	Anthracene	Not Detected	5600		50
56-55-3	Benzo[a]anthracene	Not Detected	5600		50
50-32-8	Benzo[a]pyrene	Not Detected	11000		50
205-99-2	Benzo[b]fluoranthene	Not Detected	11000		50
191-24-2	Benzo[g,h,i]perylene	Not Detected	11000		50
207-08-9	Benzo[k]fluoranthene	Not Detected	11000		50
218-01-9	Chrysene	Not Detected	5600		50
53-70-3	Dibenz[a,h]anthracene	Not Detected	11000		50
206-44-0	Fluoranthene	Not Detected	5600		50
86-73-7	Fluorene	Not Detected	5600		50
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	11000		50
91-20-3	Naphthalene	6400	5600		50
85-01-8	Phenanthrene	Not Detected	5600		50
129-00-0	Pyrene	Not Detected	5600		50

Probable petroleum product(s) present.
RLs raised due to matrix interference.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.46			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	26000	950		800
95-63-6	1,2,4-Trimethylbenzene	56000	950		800
108-67-8	1,3,5-Trimethylbenzene	18000	950		800
71-43-2	Benzene	Not Detected	950		800
100-41-4	Ethylbenzene	6000	950		800
108383,106423	m & p - Xylene	23000	1900		800

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90534 SB-23 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/16/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/08/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	79.1			
SURROGATE	#Nitrobenzene - D5#	78.9			
SURROGATE	#p-Terphenyl-d14#	90.8			
91-57-6	2-Methylnaphthalene	Not Detected	550		2.0
83-32-9	Acenaphthene	Not Detected	220		2.0
208-96-8	Acenaphthylene	Not Detected	220		2.0
120-12-7	Anthracene	Not Detected	220		2.0
56-55-3	Benzo[a]anthracene	Not Detected	220		2.0
50-32-8	Benzo[a]pyrene	Not Detected	440		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	440		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	440		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	440		2.0
218-01-9	Chrysene	Not Detected	220		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	440		2.0
206-44-0	Fluoranthene	Not Detected	220		2.0
86-73-7	Fluorene	Not Detected	220		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	440		2.0
91-20-3	Naphthalene	Not Detected	220		2.0
85-01-8	Phenanthrene	Not Detected	220		2.0
129-00-0	Pyrene	Not Detected	220		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.21			
SURROGATE	#Bromofluorobenzene#	91.6			
SURROGATE	#Dibromofluoromethane#	95.2			
SURROGATE	#Toluene-d8#	101			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	59		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	59		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	59		50
71-43-2	Benzene	Not Detected	59		50
100-41-4	Ethylbenzene	Not Detected	59		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	59		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90535 SB-24 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/16/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/08/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	81.5			
SURROGATE	#Nitrobenzene - D5#	76.4			
SURROGATE	#p-Terphenyl-d14#	95.2			
91-57-6	2-Methylnaphthalene	2100	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	1200	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.
Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.60			
SURROGATE	#Bromofluorobenzene#	97.5			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	2600	66		50
95-63-6	1,2,4-Trimethylbenzene	11000	66		50
108-67-8	1,3,5-Trimethylbenzene	3200	66		50
71-43-2	Benzene	470	66		50
100-41-4	Ethylbenzene	1000	66		50
108383,106423	m & p - Xylene	3900	130		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90535 SB-24 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	66		50
95-47-6	o-xylene	Not Detected	66		50
108-88-3	Toluene	Not Detected	66		50

Unidentified peaks present in sample.

Sample Number: AB90535 SB-24 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	6.2	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	87.5	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/08/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90536 SB-24 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/16/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/08/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	81.1			
SURROGATE	#Nitrobenzene - D5#	73.3			
SURROGATE	#p-Terphenyl-d14#	94.2			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.41			
SURROGATE	#Bromofluorobenzene#	93.3			
SURROGATE	#Dibromofluoromethane#	95.3			
SURROGATE	#Toluene-d8#	97.4			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
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Sample Number: AB90536 SB-24 (10-12)

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
 Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	61		50
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90536 SB-24 (10-12)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	5.6	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	88.2	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/08/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90537 SB-25 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/16/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/08/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	77.7			
SURROGATE	#Nitrobenzene - D5#	71.7			
SURROGATE	#p-Terphenyl-d14#	88.2			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.34			
SURROGATE	#Bromofluorobenzene#	93.2			
SURROGATE	#Dibromofluoromethane#	94.4			
SURROGATE	#Toluene-d8#	96.5			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90537 SB-25 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	62		50
95-47-6	o-xylene	Not Detected	62		50
108-88-3	Toluene	Not Detected	62		50

Unidentified peaks present in sample.

Sample Number: AB90537 SB-25 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	6.7	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	87.9	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/08/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90538 SB-25 (10-12)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/10/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	75.7			
SURROGATE	#Nitrobenzene - D5#	75.2			
SURROGATE	#p-Terphenyl-d14#	109			
91-57-6	2-Methylnaphthalene	Not detected	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.44			
SURROGATE	#Bromofluorobenzene#	91.5			
SURROGATE	#Dibromofluoromethane#	95.2			
SURROGATE	#Toluene-d8#	94.1			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	61		50
95-63-6	1,2,4-Trimethylbenzene	71	61		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	Not Detected	61		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	61		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90538 SB-25 (10-12)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
95-47-6	o-xylene	Not Detected	61		50
108-88-3	Toluene	Not Detected	61		50

Sample Number: AB90538 SB-25 (10-12)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	5.7	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	88.3	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/13/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90539 SB-26 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	64.4			
SURROGATE	#Nitrobenzene - D5#	60.0			
SURROGATE	#p-Terphenyl-d14#	88.7			
91-57-6	2-Methylnaphthalene	1400	560		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	410	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.
Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.52			
SURROGATE	#Bromofluorobenzene#	101			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	105			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	60		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	60		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	60		50
71-43-2	Benzene	Not Detected	60		50
100-41-4	Ethylbenzene	61	60		50
108383,106423	m & p - Xylene	Not Detected	120		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90540 SB-26 (12-14)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/17/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	63.1			
SURROGATE	#Nitrobenzene - D5#	58.8			
SURROGATE	#p-Terphenyl-d14#	94.2			
91-57-6	2-Methylnaphthalene	Not detected	560		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	Not detected	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.89			
SURROGATE	#Bromofluorobenzene#	90.1			
SURROGATE	#Dibromofluoromethane#	89.1			
SURROGATE	#Toluene-d8#	94.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	63		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	63		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	63		50
71-43-2	Benzene	Not Detected	63		50
100-41-4	Ethylbenzene	Not Detected	63		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	63		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90541 SB-27 (4-6)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/17/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/10/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	65.9			
SURROGATE	#Nitrobenzene - D5#	62.6			
SURROGATE	#p-Terphenyl-d14#	106			
91-57-6	2-Methylnaphthalene	2800	570		2
83-32-9	Acenaphthene	Not detected	230		2
208-96-8	Acenaphthylene	Not detected	230		2
120-12-7	Anthracene	Not detected	230		2
56-55-3	Benzo[a]anthracene	Not detected	230		2
50-32-8	Benzo[a]pyrene	Not detected	450		2
205-99-2	Benzo[b]fluoranthene	Not detected	450		2
191-24-2	Benzo[g,h,i]perylene	Not detected	450		2
207-08-9	Benzo[k]fluoranthene	Not detected	450		2
218-01-9	Chrysene	Not detected	230		2
53-70-3	Dibenz[a,h]anthracene	Not detected	450		2
206-44-0	Fluoranthene	Not detected	230		2
86-73-7	Fluorene	Not detected	230		2
193-39-5	Indeno(1,2,3-c,d)pyrene	Not detected	450		2
91-20-3	Naphthalene	1100	230		2
85-01-8	Phenanthrene	Not detected	230		2
129-00-0	Pyrene	Not detected	230		2

Probable petroleum product(s) present.
RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/09/2012 Analyst: KCL
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.43			
SURROGATE	#Bromofluorobenzene#	98.7			
SURROGATE	#Dibromofluoromethane#	94.9			
SURROGATE	#Toluene-d8#	99.5			
526-73-8	1,2,3-Trimethylbenzene	340	61		50
95-63-6	1,2,4-Trimethylbenzene	380	61		50
108-67-8	1,3,5-Trimethylbenzene	440	61		50
71-43-2	Benzene	Not Detected	61		50
100-41-4	Ethylbenzene	350	61		50
108383,106423	m & p - Xylene	350	120		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90541 SB-27 (4-6)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/09/2012 **Analyst:** KCL
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	61		50
95-47-6	o-xylene	230	61		50
108-88-3	Toluene	Not Detected	61		50

Unidentified peaks present in sample.

Sample Number: AB90541 SB-27 (4-6)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	6.4	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	88.0	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/13/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90542 SB-27 (14-16)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/19/2012 Analyst: SMH
Extraction Method: 3545 Extraction Date: 02/10/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	63.4			
SURROGATE	#Nitrobenzene - D5#	57.2			
SURROGATE	#p-Terphenyl-d14#	82.7			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/10/2012 Analyst: SJR
Extraction Method: 5035 Extraction Date: 02/06/2012 Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.36			
SURROGATE	#Bromofluorobenzene#	109			
SURROGATE	#Dibromofluoromethane#	114			
SURROGATE	#Toluene-d8#	104			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	62		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	62		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	62		50
71-43-2	Benzene	Not Detected	62		50
100-41-4	Ethylbenzene	Not Detected	62		50
108383,106423	m & p - Xylene	Not Detected	120		50
1634-04-4	Methyltertiarybutylether	Not Detected	62		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90543 SB-28 (6-7)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/21/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	Not Applicable		V	
SURROGATE	#Nitrobenzene - D5#	Not Applicable		V	
SURROGATE	#p-Terphenyl-d14#	Not Applicable		V	
91-57-6	2-Methylnaphthalene	Not Detected	14000		50
83-32-9	Acenaphthene	Not Detected	5700		50
208-96-8	Acenaphthylene	Not Detected	5700		50
120-12-7	Anthracene	Not Detected	5700		50
56-55-3	Benzo[a]anthracene	Not Detected	5700		50
50-32-8	Benzo[a]pyrene	Not Detected	11000		50
205-99-2	Benzo[b]fluoranthene	Not Detected	11000		50
191-24-2	Benzo[g,h,i]perylene	Not Detected	11000		50
207-08-9	Benzo[k]fluoranthene	Not Detected	11000		50
218-01-9	Chrysene	Not Detected	5700		50
53-70-3	Dibenz[a,h]anthracene	Not Detected	11000		50
206-44-0	Fluoranthene	Not Detected	5700		50
86-73-7	Fluorene	Not Detected	5700		50
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	11000		50
91-20-3	Naphthalene	Not Detected	5700		50
85-01-8	Phenanthrene	Not Detected	5700		50
129-00-0	Pyrene	Not Detected	5700		50

Probable petroleum product(s) present.
RLs raised due to matrix interference.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/14/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.74			
SURROGATE	#Bromofluorobenzene#	104			
SURROGATE	#Dibromofluoromethane#	120			
SURROGATE	#Toluene-d8#	116			
526-73-8	1,2,3-Trimethylbenzene	360	65		50
95-63-6	1,2,4-Trimethylbenzene	480	65		50
108-67-8	1,3,5-Trimethylbenzene	160	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	Not Detected	130		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90544 SB-29 (9-10)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/19/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	79.0			
SURROGATE	#Nitrobenzene - D5#	77.2			
SURROGATE	#p-Terphenyl-d14#	99.2			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	450		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	450		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	450		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	450		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	450		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	450		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.74			
SURROGATE	#Bromofluorobenzene#	111			
SURROGATE	#Dibromofluoromethane#	115			
SURROGATE	#Toluene-d8#	108			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	65		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	65		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	65		50
71-43-2	Benzene	Not Detected	65		50
100-41-4	Ethylbenzene	Not Detected	65		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	65		50

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90545 SB-30 (2-4)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/21/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	90.8			
SURROGATE	#Nitrobenzene - D5#	94.8			
SURROGATE	#p-Terphenyl-d14#	99.6			
91-57-6	2-Methylnaphthalene	18000	3000		10
83-32-9	Acenaphthene	Not Detected	1200		10
208-96-8	Acenaphthylene	Not Detected	1200		10
120-12-7	Anthracene	Not Detected	1200		10
56-55-3	Benzo[a]anthracene	Not Detected	1200		10
50-32-8	Benzo[a]pyrene	Not Detected	2400		10
205-99-2	Benzo[b]fluoranthene	Not Detected	2400		10
191-24-2	Benzo[g,h,i]perylene	Not Detected	2400		10
207-08-9	Benzo[k]fluoranthene	Not Detected	2400		10
218-01-9	Chrysene	Not Detected	1200		10
53-70-3	Dibenz[a,h]anthracene	Not Detected	2400		10
206-44-0	Fluoranthene	Not Detected	1200		10
86-73-7	Fluorene	Not Detected	1200		10
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2400		10
91-20-3	Naphthalene	15000	1200		10
85-01-8	Phenanthrene	Not Detected	1200		10
129-00-0	Pyrene	Not Detected	1200		10

Probable petroleum product(s) present.
RLs raised due to matrix interference.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.57			
SURROGATE	#Bromofluorobenzene#	Not Applicable		V	
SURROGATE	#Dibromofluoromethane#	Not Applicable		V	
SURROGATE	#Toluene-d8#	Not Applicable		V	
526-73-8	1,2,3-Trimethylbenzene	98000	5300		4000
95-63-6	1,2,4-Trimethylbenzene	400000	5300		4000
108-67-8	1,3,5-Trimethylbenzene	120000	5300		4000
71-43-2	Benzene	5500	5300		4000
100-41-4	Ethylbenzene	86000	5300		4000
108383,106423	m & p - Xylene	290000	11000		4000

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90545 SB-30 (2-4)

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
1634-04-4	Methyltertiarybutylether	Not Detected	5300		4000
95-47-6	o-xylene	32000	5300		4000
108-88-3	Toluene	Not Detected	5300		4000

Unidentified peaks present in sample.

Sample Number: AB90545 SB-30 (2-4)

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digest Metals - Sediment	Completed				02/13/2012	3050	TB
7439-92-1	Lead - Sediment	6.2	mg/Kg dry	1		02/14/2012	6020	TK
	% Total Solids	84.1	%	0.1		02/08/2012	2540B SM	JW
	Drying and Grinding - Sediment	COMPLETE				02/08/2012		JW
	Gel Permeation Cleanup-SVOC Analy	Completed				02/13/2012	3640	DT

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90546 SB-30 (9-10)

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/19/2012 **Analyst:** SMH
Extraction Method: 3545 **Extraction Date:** 02/10/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	73.0			
SURROGATE	#Nitrobenzene - D5#	67.6			
SURROGATE	#p-Terphenyl-d14#	110			
91-57-6	2-Methylnaphthalene	Not Detected	570		2.0
83-32-9	Acenaphthene	Not Detected	230		2.0
208-96-8	Acenaphthylene	Not Detected	230		2.0
120-12-7	Anthracene	Not Detected	230		2.0
56-55-3	Benzo[a]anthracene	Not Detected	230		2.0
50-32-8	Benzo[a]pyrene	Not Detected	460		2.0
205-99-2	Benzo[b]fluoranthene	Not Detected	460		2.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	460		2.0
207-08-9	Benzo[k]fluoranthene	Not Detected	460		2.0
218-01-9	Chrysene	Not Detected	230		2.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	460		2.0
206-44-0	Fluoranthene	Not Detected	230		2.0
86-73-7	Fluorene	Not Detected	230		2.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	460		2.0
91-20-3	Naphthalene	Not Detected	230		2.0
85-01-8	Phenanthrene	Not Detected	230		2.0
129-00-0	Pyrene	Not Detected	230		2.0

RLs raised due to matrix.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/10/2012 **Analyst:** SJR
Extraction Method: 5035 **Extraction Date:** 02/06/2012 **Qualifier:**

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.20			
SURROGATE	#Bromofluorobenzene#	116			
SURROGATE	#Dibromofluoromethane#	119			
SURROGATE	#Toluene-d8#	114			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	63		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	63		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	63		50
71-43-2	Benzene	Not Detected	63		50
100-41-4	Ethylbenzene	Not Detected	63		50
108383,106423	m & p - Xylene	Not Detected	130		50
1634-04-4	Methyltertiarybutylether	Not Detected	63		50

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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Systems Mgmt Unit: George Krisztian



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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AB90547 TB-2

BTEX/MTBE/TMB

Analytical Method: 8260
Extraction Method: 5035

Date Tested: 02/10/2012
Extraction Date: 02/06/2012

Analyst: SJR
Qualifier:

CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
	##Weight of sample(grams)	10.00			
SURROGATE	#Bromofluorobenzene#	105			
SURROGATE	#Dibromofluoromethane#	108			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	50		50
95-63-6	1,2,4-Trimethylbenzene	Not Detected	50		50
108-67-8	1,3,5-Trimethylbenzene	Not Detected	50		50
71-43-2	Benzene	Not Detected	50		50
100-41-4	Ethylbenzene	Not Detected	50		50
108383,106423	m & p - Xylene	Not Detected	100		50
1634-04-4	Methyltertiarybutylether	Not Detected	50		50
95-47-6	o-xylene	Not Detected	50		50
108-88-3	Toluene	Not Detected	50		50

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

Sample Number: AB90547 TB-2

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		02/08/2012	2540B SM	JW

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 Organic Unit Mgr: Carol Smith
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<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatiles organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Division: RD
Report to: PEWU BAH-DEH
MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Total: \$330.00

Lab Work Order # : 20100215
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 01/31/2012
Reported: 02/13/2012
Collected By: RON FRIEND

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90304	SB-5	WATER	01/30/2012
02	AB90305	TB-1	WATER	01/23/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



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Sample Number: AB90304 SB-5

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/08/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 02/01/2012 **Qualifier:** **Volume:** 1000

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	76.8			
SURROGATE	#Nitrobenzene - D5#	63.5			
SURROGATE	#p-Terphenyl-d14#	66.6			
91-57-6	2-Methylnaphthalene	Not Detected	5.0		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	0.9	1.0	T	1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	4.0	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	1.0	1.0		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	103			
SURROGATE	#Dibromofluoromethane#	97.9			
SURROGATE	#Toluene-d8#	100			
526-73-8	1,2,3-Trimethylbenzene	8.9	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	25	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	3.9	1.0		1.0
71-43-2	Benzene	25	1.0		1.0
100-41-4	Ethylbenzene	12	1.0		1.0
108383,106423	m & p - Xylene	12	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	5.4	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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Sample Number: AB90304 SB-5

Unidentified peaks present in sample.

Sample Number: AB90304 SB-5

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/03/2012	3010/200	TB
7439-92-1	Lead - Total	86	µg/L	1		02/07/2012	6020/200.8	TK

Sample Number: AB90305 TB-1

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/02/2012 **Analyst:** RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	102			
SURROGATE	#Dibromofluoromethane#	97.1			
SURROGATE	#Toluene-d8#	99.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
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7	Result(s) and RL(s) are estimated due to poor precision.
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9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
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H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
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K	RL(s) raised due to matrix interferences.
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KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

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MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order # : 20200021
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 02/03/2012
Reported: 02/22/2012
Collected By: RON FRIEND

Total: \$575.00

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90526	SB-17	WATER	02/01/2012
02	AB90527	SB-18	WATER	02/01/2012
03	AB90528	TB-2	WATER	01/23/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



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Sample Number: AB90526 SB-17

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 Date Tested: 02/13/2012 Analyst: SMH
 Extraction Method: 3510 Extraction Date: 02/07/2012 Qualifier: Volume: 1000

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	40.6			
SURROGATE	#Nitrobenzene - D5#	38.3			
SURROGATE	#p-Terphenyl-d14#	68.8			
91-57-6	2-Methylnaphthalene	Not Detected	5.0		1.0
83-32-9	Acenaphthene	1.2	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 Date Tested: 02/08/2012 Analyst: RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	97.7			
SURROGATE	#Dibromofluoromethane#	95.2			
SURROGATE	#Toluene-d8#	99.9			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Sample Number: AB90526 SB-17

Sample Number: AB90526 SB-17

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/06/2012	3010/200	TB
7439-92-1	Lead - Total	1.5	µg/L	1		02/08/2012	6020/200.8	TK

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
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Sample Number: AB90527 SB-18

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/13/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 02/07/2012 **Qualifier:** **Volume:** 990

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	58.7			
SURROGATE	#Nitrobenzene - D5#	50.2			
SURROGATE	#p-Terphenyl-d14#	80.7			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	1.2	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** JRS

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	102			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	94.6			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
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Sample Number: AB90527 SB-18

Sample was received close to hold time and analyzed past USEPA maximum allowable holding time.
Data is estimated.

Sample Number: AB90527 SB-18

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/06/2012	3010/200	TB
7439-92-1	Lead - Total	1.5	µg/L	1		02/07/2012	6020/200.8	TK

Sample Number: AB90528 TB-2

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/07/2012 **Analyst:** JRS

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	104			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	94.9			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY**

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
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Division: RD
Report to: PEWU BAH-DEH
MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Total: \$820.00

Lab Work Order # : 20200068
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 02/09/2012
Reported: 03/01/2012
Collected By: RON FRIEND

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB90814	MW-2	WATER	02/08/2012
02	AB90815	MW-3	WATER	02/08/2012
03	AB90816	MW-7	WATER	02/08/2012
04	AB90817	TB-4	WATER	01/23/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB90814 MW-2

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 02/10/2012 **Qualifier:** **Volume:** 990

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	61.4			
SURROGATE	#Nitrobenzene - D5#	65.8			
SURROGATE	#p-Terphenyl-d14#	66.1			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/13/2012 **Analyst:** RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	98.2			
SURROGATE	#Dibromofluoromethane#	94.0			
SURROGATE	#Toluene-d8#	98.2			
526-73-8	1,2,3-Trimethylbenzene	1.2	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	2.5	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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Sample Number: AB90814 MW-2

Sample Number: AB90814 MW-2

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/16/2012	3010/200	TB
7439-92-1	Lead - Total	16	µg/L	1		02/21/2012	6020/200.8	TK

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
TEL: (517) 335-9800
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Sample Number: AB90815 MW-3

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 02/23/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 02/10/2012 **Qualifier:** **Volume:** 970

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	59.7			
SURROGATE	#Nitrobenzene - D5#	66.0			
SURROGATE	#p-Terphenyl-d14#	67.4			
91-57-6	2-Methylnaphthalene	Not Detected	5.2		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.1		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.1		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/13/2012 **Analyst:** RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	96.6			
SURROGATE	#Dibromofluoromethane#	94.3			
SURROGATE	#Toluene-d8#	99.3			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	1.8	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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Sample Number: AB90815 MW-3

Sample Number: AB90815 MW-37

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/16/2012	3010/200	TB
7439-92-1	Lead - Total	1.0	µg/L	1		02/21/2012	6020/200.8	TK

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Sample Number: AB90816 MW-7

Sample Number: AB90816 MW-7

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				02/16/2012	3010/200	TB
7439-92-1	Lead - Total	1.3	µg/L	1		02/21/2012	6020/200.8	TK

Sample Number: AB90817 TB-4

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 02/13/2012 **Analyst:** RD

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	97.4			
SURROGATE	#Dibromofluoromethane#	92.9			
SURROGATE	#Toluene-d8#	98.5			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

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**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Division: RD
Report to: PEWU BAH-DEH
MDEQ-RD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order # : 20800194
Work Site ID : 82002470
Site Name : CITY OF DETROIT-DOT
Received: 08/21/2012
Reported: 09/18/2012
Collected By: RON FRIEND

Total: \$2,195.00

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AC02660	MW-11	WATER	08/17/2012
02	AC02661	MW-12	WATER	08/17/2012
03	AC02662	MW-10	WATER	08/17/2012
04	AC02663	MW-13	WATER	08/17/2012
05	AC02664	MW-14	WATER	08/17/2012
06	AC02665	MW-7	WATER	08/17/2012
07	AC02666	MW-3	WATER	08/17/2012
08	AC02667	DUP-1	WATER	08/17/2012
09	AC02668	MW-2	WATER	08/17/2012
10	AC02669	TB-1	WATER	05/17/2012
11	AC02670	TB-2	WATER	05/17/2012

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02660 MW-11

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/28/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 985

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	62.1			
SURROGATE	#Nitrobenzene - D5#	58.4			
SURROGATE	#p-Terphenyl-d14#	67.6			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	9.9	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	98.8			
SURROGATE	#Dibromofluoromethane#	97.5			
SURROGATE	#Toluene-d8#	106			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	3.5	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02660 MW-11

Unidentified peaks present in sample.

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02661 MW-12

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 980

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	64.3			
SURROGATE	#Nitrobenzene - D5#	65.0			
SURROGATE	#p-Terphenyl-d14#	70.4			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	30	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	95.7			
SURROGATE	#Dibromofluoromethane#	95.8			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	39	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	200	20		20
108-67-8	1,3,5-Trimethylbenzene	33	1.0		1.0
71-43-2	Benzene	4500	20		20
100-41-4	Ethylbenzene	330	20		20
108383,106423	m & p - Xylene	230	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	1.6	1.0		1.0
108-88-3	Toluene	11	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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TEL: (517) 335-9800
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Sample Number: AC02661 MW-12

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02662 MW-10

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02663 MW-13

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 975

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	56.8			
SURROGATE	#Nitrobenzene - D5#	57.2			
SURROGATE	#p-Terphenyl-d14#	70.6			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.1		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.1		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	93.6			
SURROGATE	#Dibromofluoromethane#	95.8			
SURROGATE	#Toluene-d8#	99.7			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02663 MW-13

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02664 MW-14

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 990

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	58.6			
SURROGATE	#Nitrobenzene - D5#	59.1			
SURROGATE	#p-Terphenyl-d14#	101			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	94.3			
SURROGATE	#Dibromofluoromethane#	98.6			
SURROGATE	#Toluene-d8#	101			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
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FAX: (517) 335-9600

Sample Number: AC02664 MW-14

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02665 MW-7

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270
Extraction Method: 3510

Date Tested: 08/27/2012
Extraction Date: 08/23/2012

Analyst: SMH
Qualifier: Volume: 970

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	65.8			
SURROGATE	#Nitrobenzene - D5#	65.1			
SURROGATE	#p-Terphenyl-d14#	90.4			
91-57-6	2-Methylnaphthalene	Not Detected	5.2		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.1		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.1		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

Probable petroleum product(s) present.

BTEX/MTBE/TMB

Analytical Method: 8260

Date Tested: 08/25/2012

Analyst: PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	91.7			
SURROGATE	#Dibromofluoromethane#	94.5			
SURROGATE	#Toluene-d8#	98.5			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
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Sample Number: **AC02665** **MW-7**

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Sample Number: AC02666 MW-3

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 970

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	53.2			
SURROGATE	#Nitrobenzene - D5#	51.2			
SURROGATE	#p-Terphenyl-d14#	87.2			
91-57-6	2-Methylnaphthalene	Not Detected	5.2		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.1		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.1		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	93.0			
SURROGATE	#Dibromofluoromethane#	97.8			
SURROGATE	#Toluene-d8#	101			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02666 MW-3

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC02667 DUP-1

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 990

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	49.9			
SURROGATE	#Nitrobenzene - D5#	45.2			
SURROGATE	#p-Terphenyl-d14#	86.6			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	91.8			
SURROGATE	#Dibromofluoromethane#	97.0			
SURROGATE	#Toluene-d8#	99.0			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02667 DUP-1

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC02668 MW-2

Polynuclear Aromatic Hydrocarbons (PNA)

Analytical Method: 8270 **Date Tested:** 08/27/2012 **Analyst:** SMH
Extraction Method: 3510 **Extraction Date:** 08/23/2012 **Qualifier:** **Volume:** 985

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#2 - Fluorobiphenyl#	70.0			
SURROGATE	#Nitrobenzene - D5#	56.8			
SURROGATE	#p-Terphenyl-d14#	94.0			
91-57-6	2-Methylnaphthalene	Not Detected	5.1		1.0
83-32-9	Acenaphthene	Not Detected	1.0		1.0
208-96-8	Acenaphthylene	Not Detected	1.0		1.0
120-12-7	Anthracene	Not Detected	1.0		1.0
56-55-3	Benzo[a]anthracene	Not Detected	1.0		1.0
50-32-8	Benzo[a]pyrene	Not Detected	1.0		1.0
205-99-2	Benzo[b]fluoranthene	Not Detected	1.0		1.0
191-24-2	Benzo[g,h,i]perylene	Not Detected	1.0		1.0
207-08-9	Benzo[k]fluoranthene	Not Detected	1.0		1.0
218-01-9	Chrysene	Not Detected	1.0		1.0
53-70-3	Dibenz[a,h]anthracene	Not Detected	2.0		1.0
206-44-0	Fluoranthene	Not Detected	1.0		1.0
86-73-7	Fluorene	Not Detected	1.0		1.0
193-39-5	Indeno(1,2,3-c,d)pyrene	Not Detected	2.0		1.0
91-20-3	Naphthalene	Not Detected	1.0		1.0
85-01-8	Phenanthrene	Not Detected	1.0		1.0
129-00-0	Pyrene	Not Detected	1.0		1.0

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/25/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	92.9			
SURROGATE	#Dibromofluoromethane#	96.7			
SURROGATE	#Toluene-d8#	100			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC02668 MW-2

Sample Number: AC02669 TB-1

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/24/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	91.9			
SURROGATE	#Dibromofluoromethane#	96.4			
SURROGATE	#Toluene-d8#	101			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC02670 TB-2

BTEX/MTBE/TMB

Analytical Method: 8260 **Date Tested:** 08/24/2012 **Analyst:** PCR

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	95.1			
SURROGATE	#Dibromofluoromethane#	98.9			
SURROGATE	#Toluene-d8#	102			
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
71-43-2	Benzene	Not Detected	1.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0

Sample was received and extracted/ analyzed past USEPA maximum allowable holding time. Data is estimated.

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 Organic Unit Mgr: Carol Smith
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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

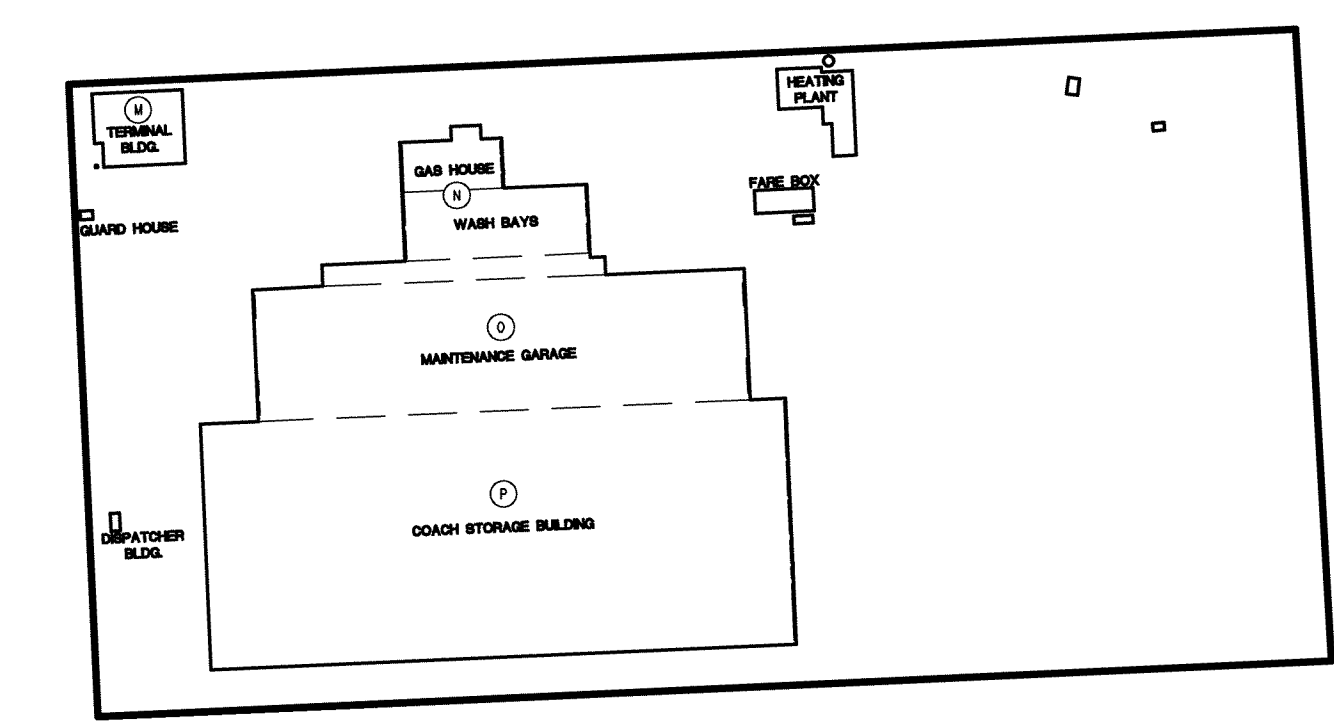
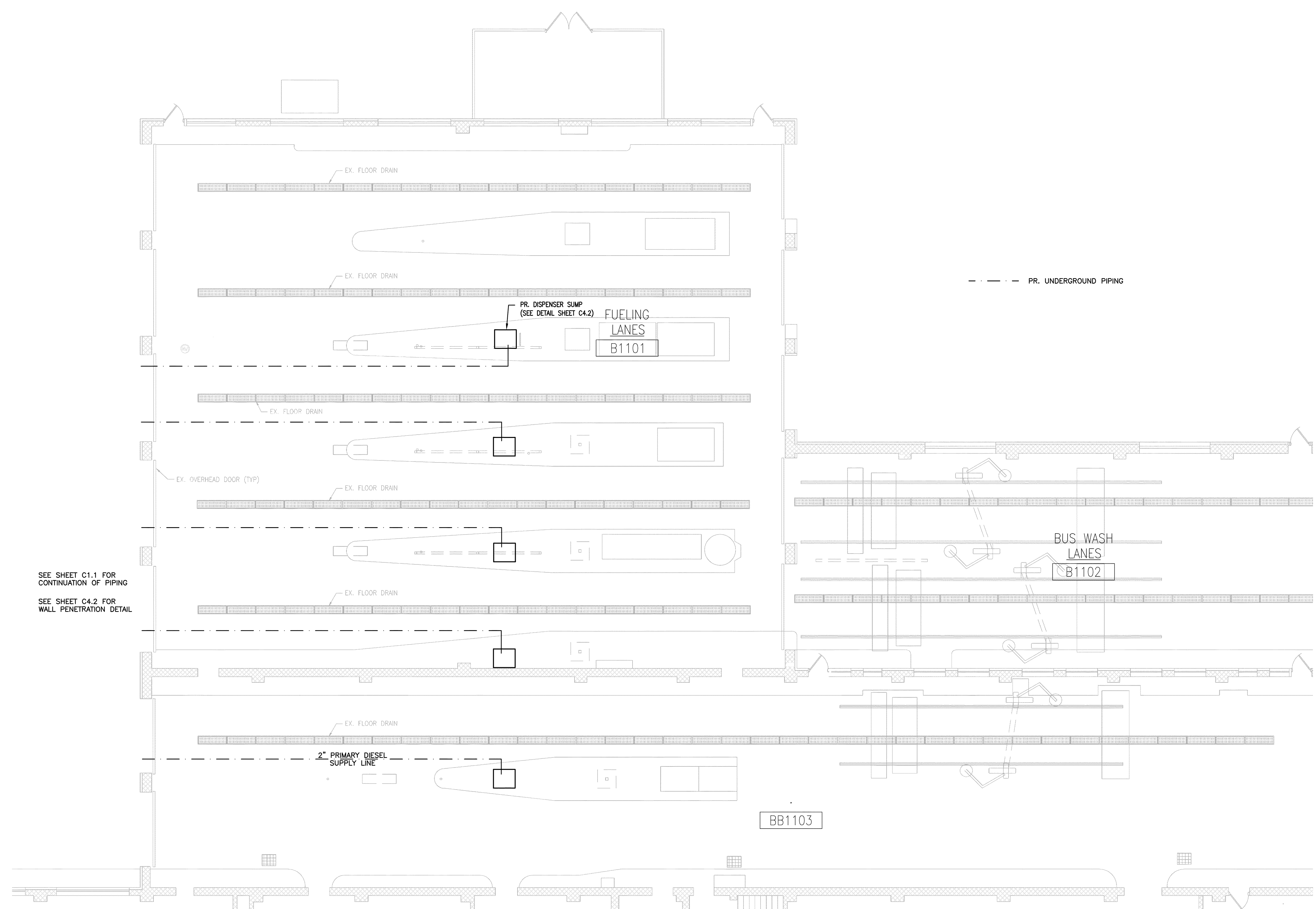
Laboratory Contacts

Inorganic Unit Mgr: Kirby Shane

Organic Unit Mgr: Carol Smith

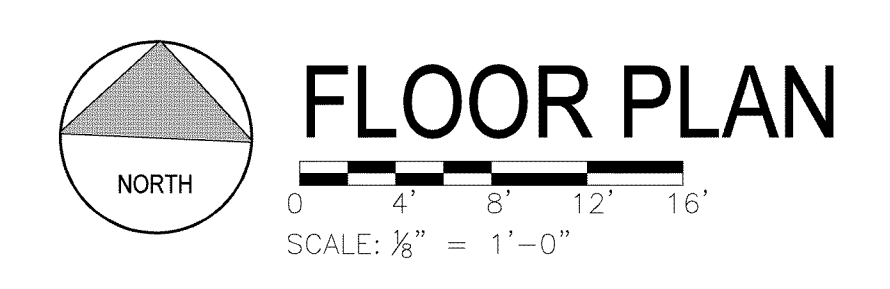
Systems Mgmt Unit: George Krisztian

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KEY MAP

SEE SHEET C1.1 FOR CONTINUATION OF PIPING
 SEE SHEET C4.2 FOR WALL PENETRATION DETAIL



FLOOR PLAN

DATE	ISSUED FOR

DATE	APP	CHK	DES

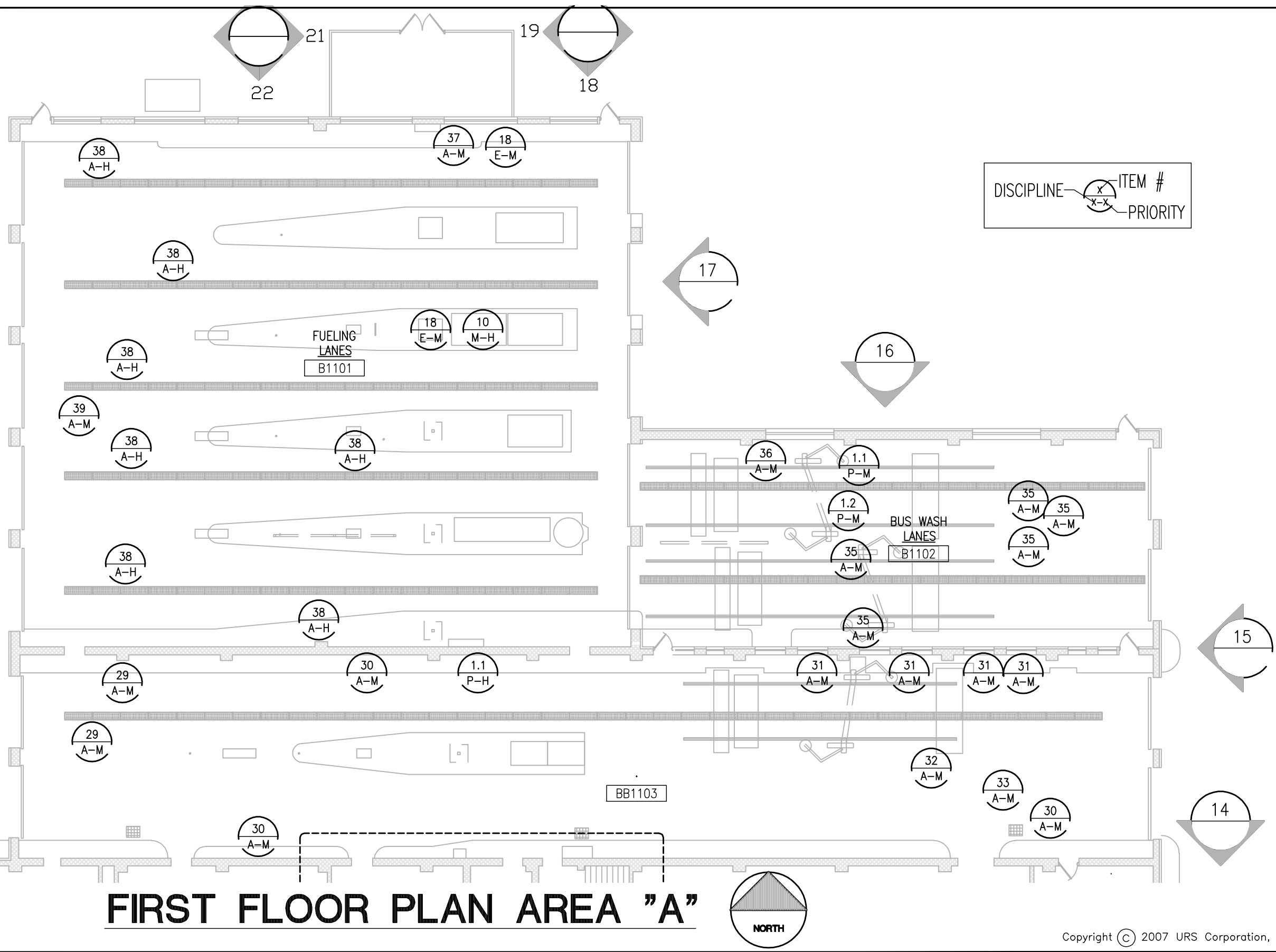
DATE	APP	CHK	DES

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 Detroit, MI 48226
 313-961-9797

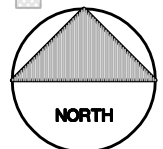
DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
 COOLIDGE FACILITY - SITE 'B'
 INTERIOR PIPING PLAN

DRAWING
A11

FILE
 31810691



FIRST FLOOR PLAN AREA "A"

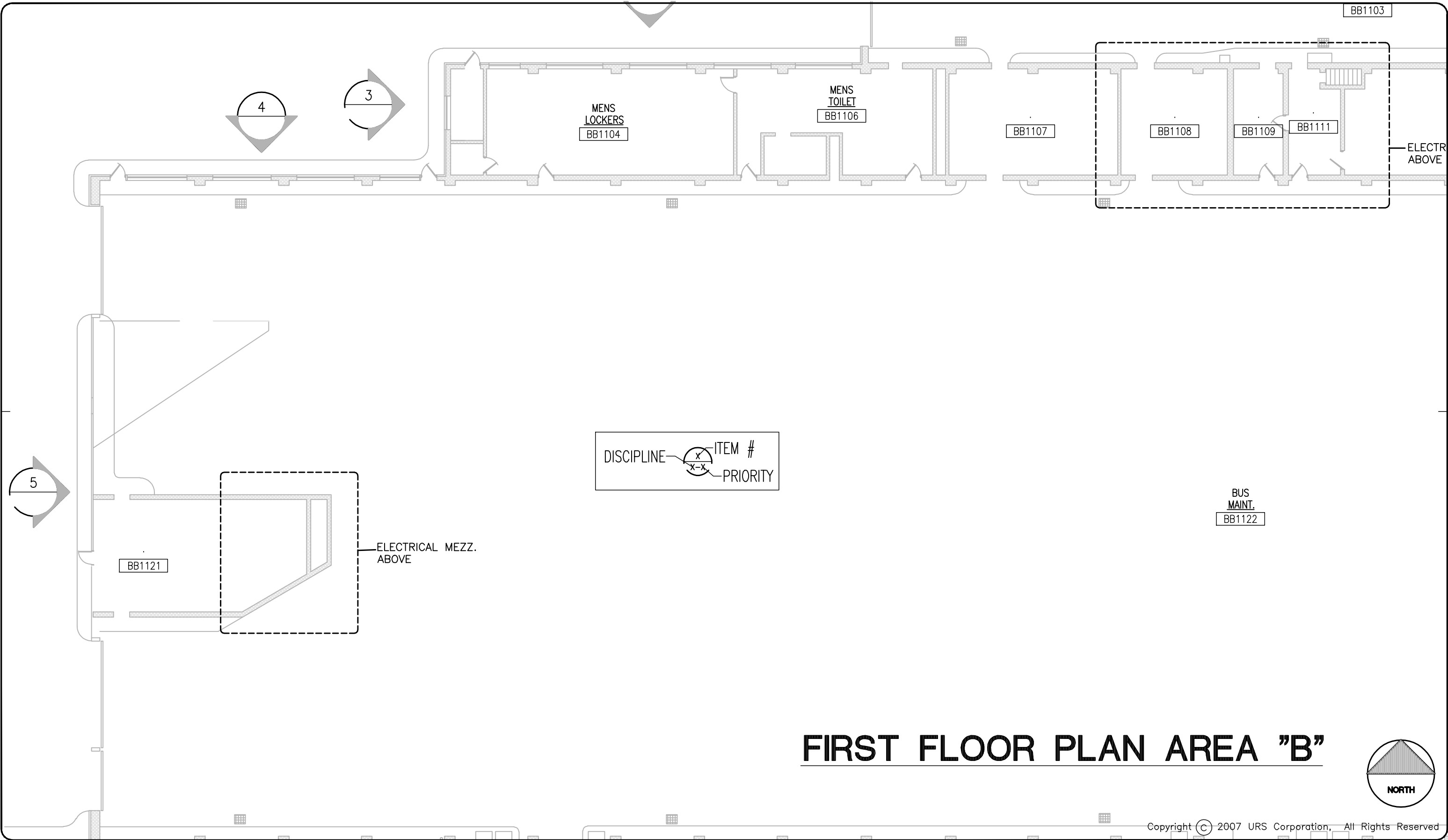


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FEDERAL TRANSIT AUTHORITY COOLIDGE FACILITY ASSESSMENT

TITLE COOLIDGE SITE:
BUS GARAGE
 URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

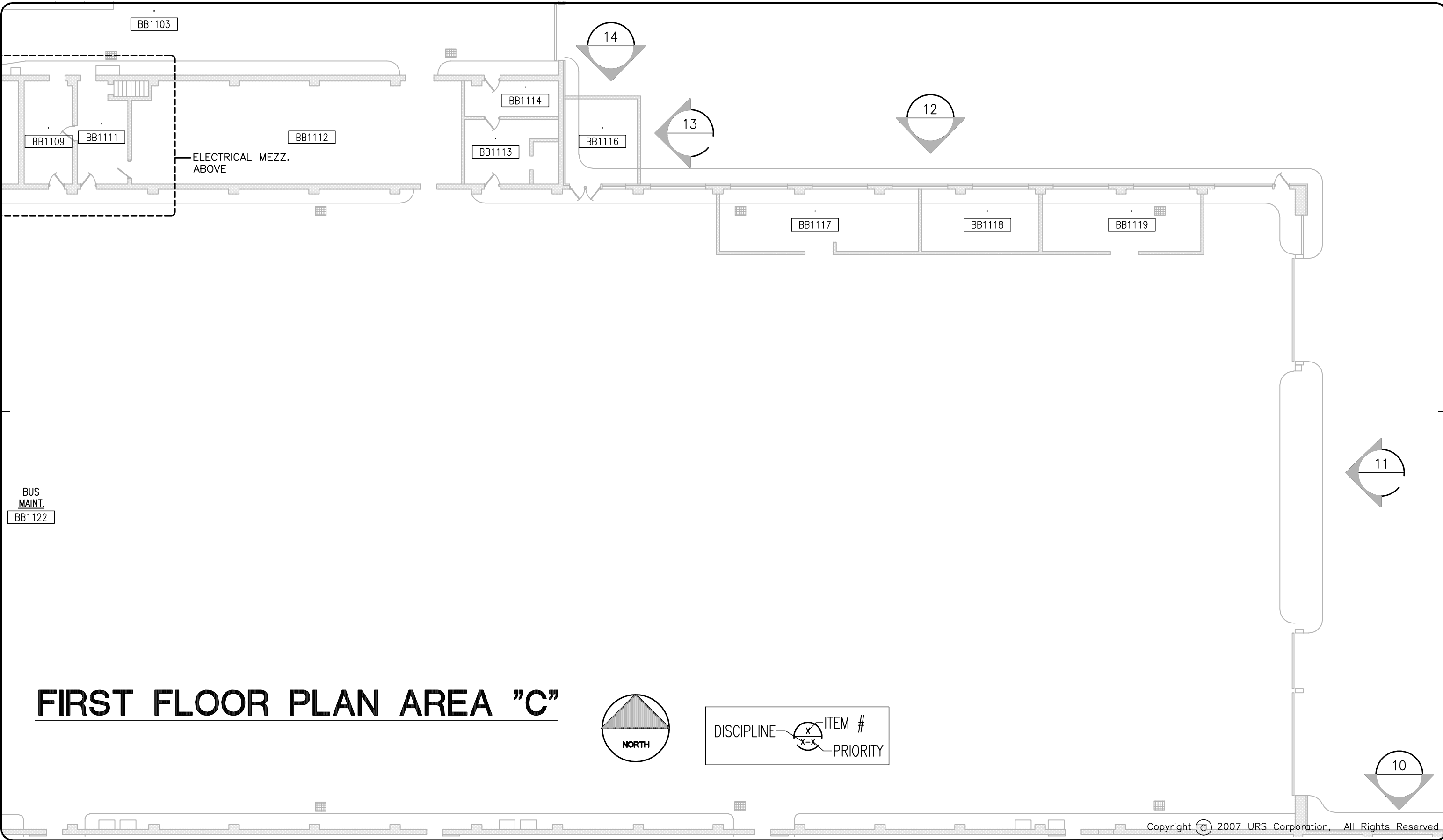
DATE 08-01-07	JOB NO.
DR.	SKETCH NO.
CK.	A1.1A



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TITLE COOLIDGE SITE:
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 URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

DATE 08-01-07	JOB NO.
DR.	SKETCH NO.
CK.	A1.1B

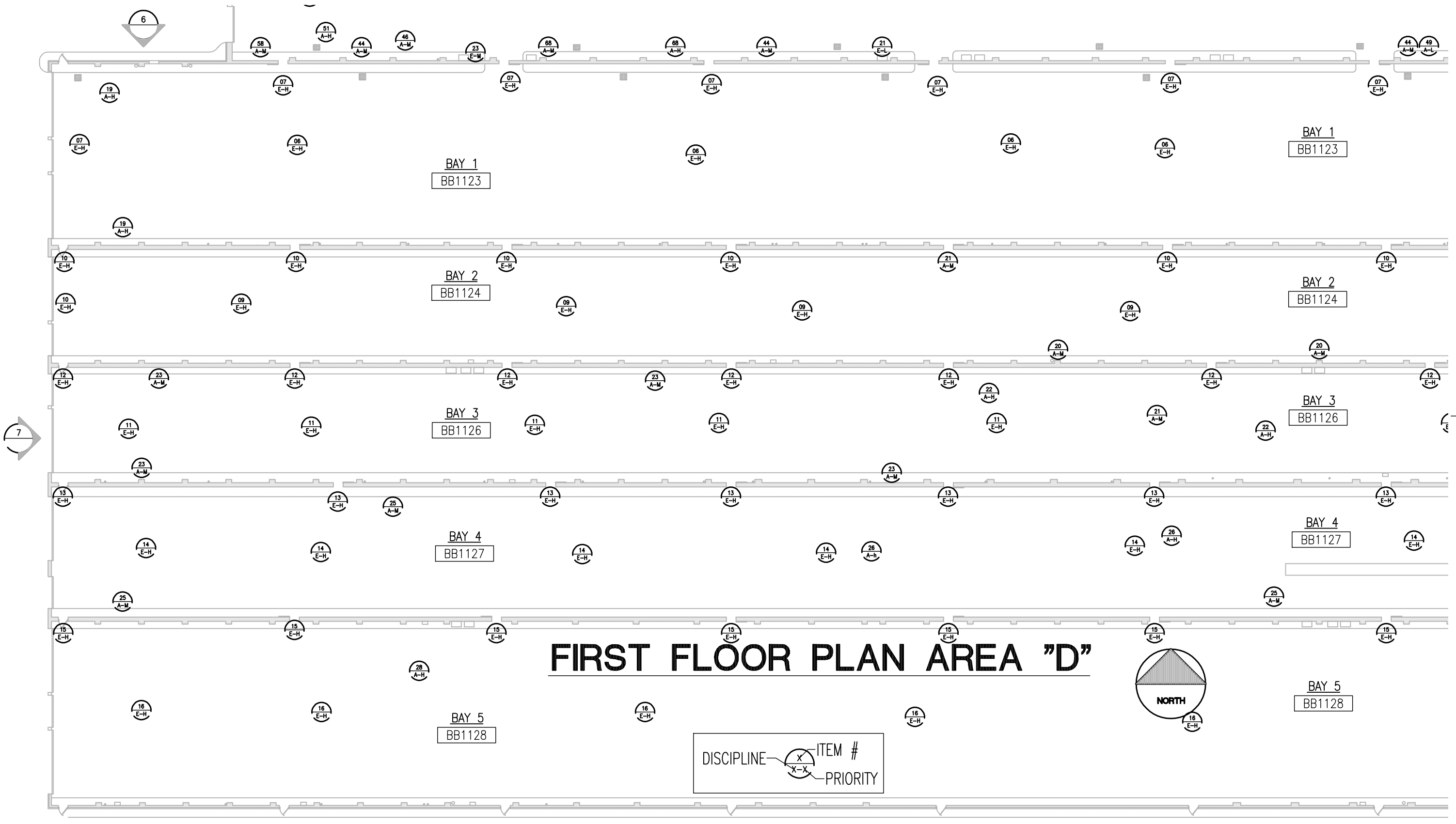


FEDERAL TRANSIT AUTHORITY COOLIDGE FACILITY ASSESSMENT

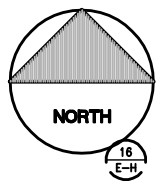
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DATE 08-01-07	JOB NO.
DR.	SKETCH NO.
CK.	A1.1C

FIRST FLOOR PLAN AREA "D"



DISCIPLINE — X — ITEM #
 — X-X — PRIORITY

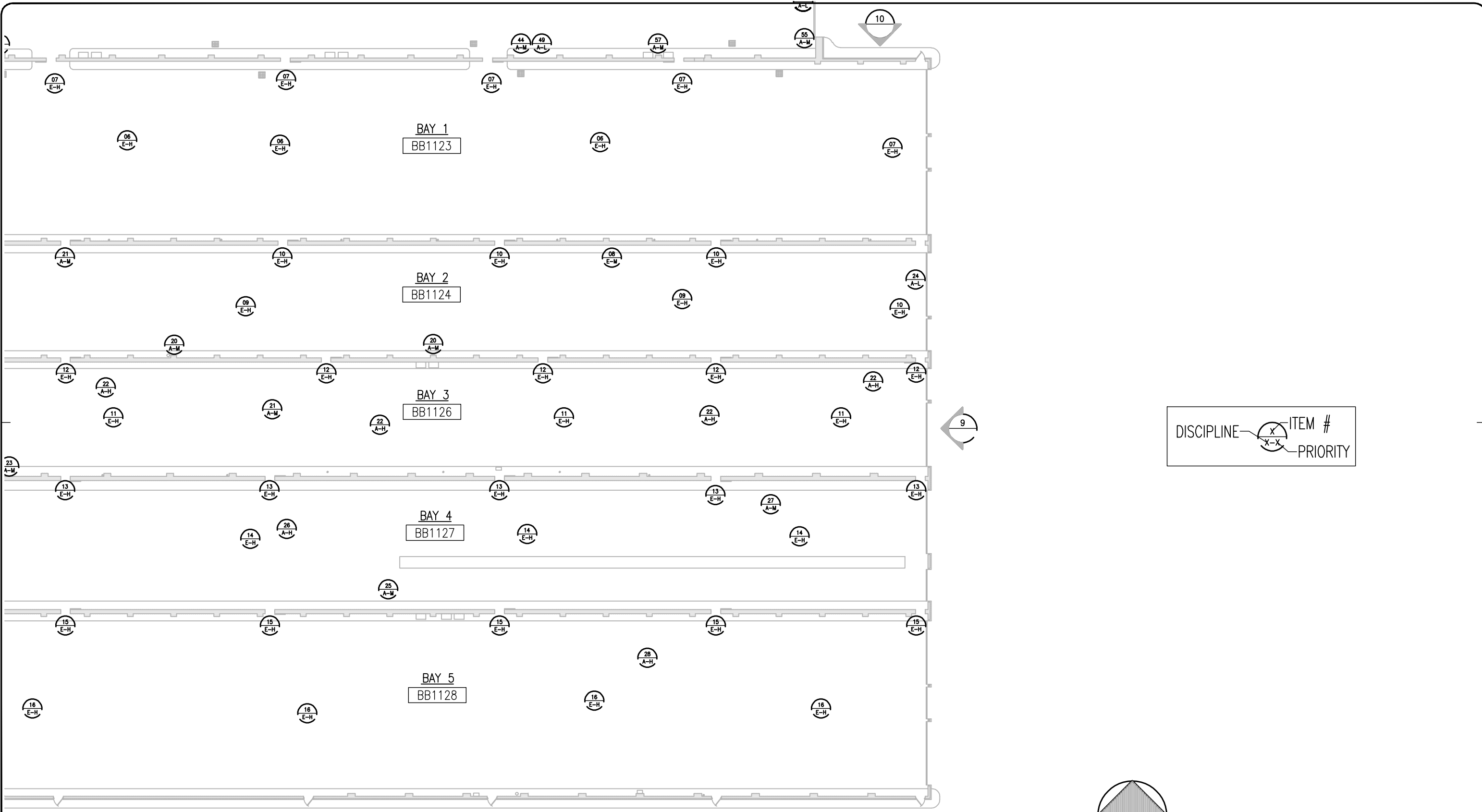


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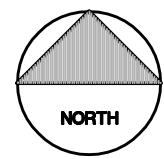
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DATE 08-01-07	JOB NO.
DR.	SKETCH NO.
CK.	A1.1D



FIRST FLOOR PLAN AREA "E"

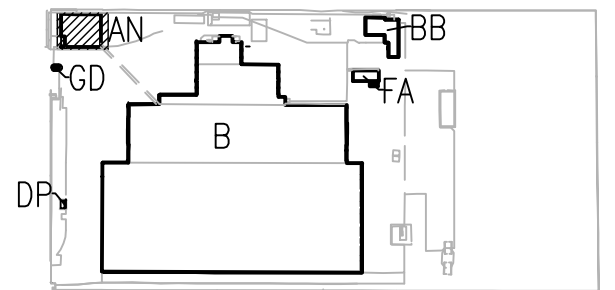
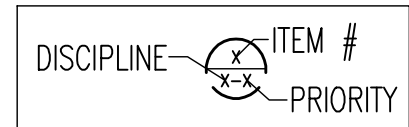
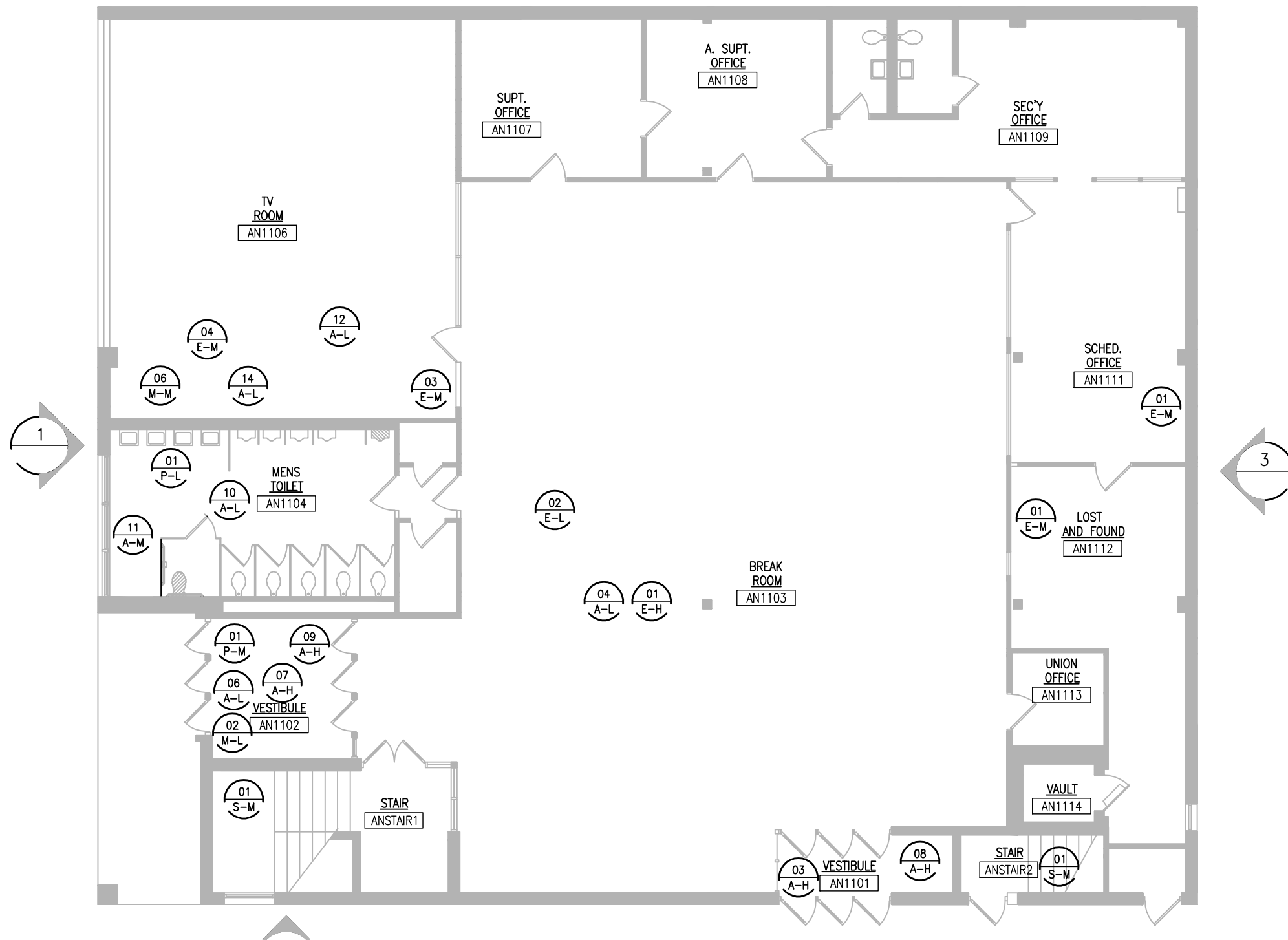


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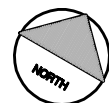
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TITLE COOLIDGE SITE:
BUS GARAGE
URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

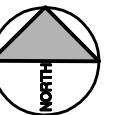
DATE 08-01-07	JOB NO.
DR.	SKETCH NO.
CK.	A1.1E



FIRST FLOOR PLAN



COOLIDGE KEY PLAN



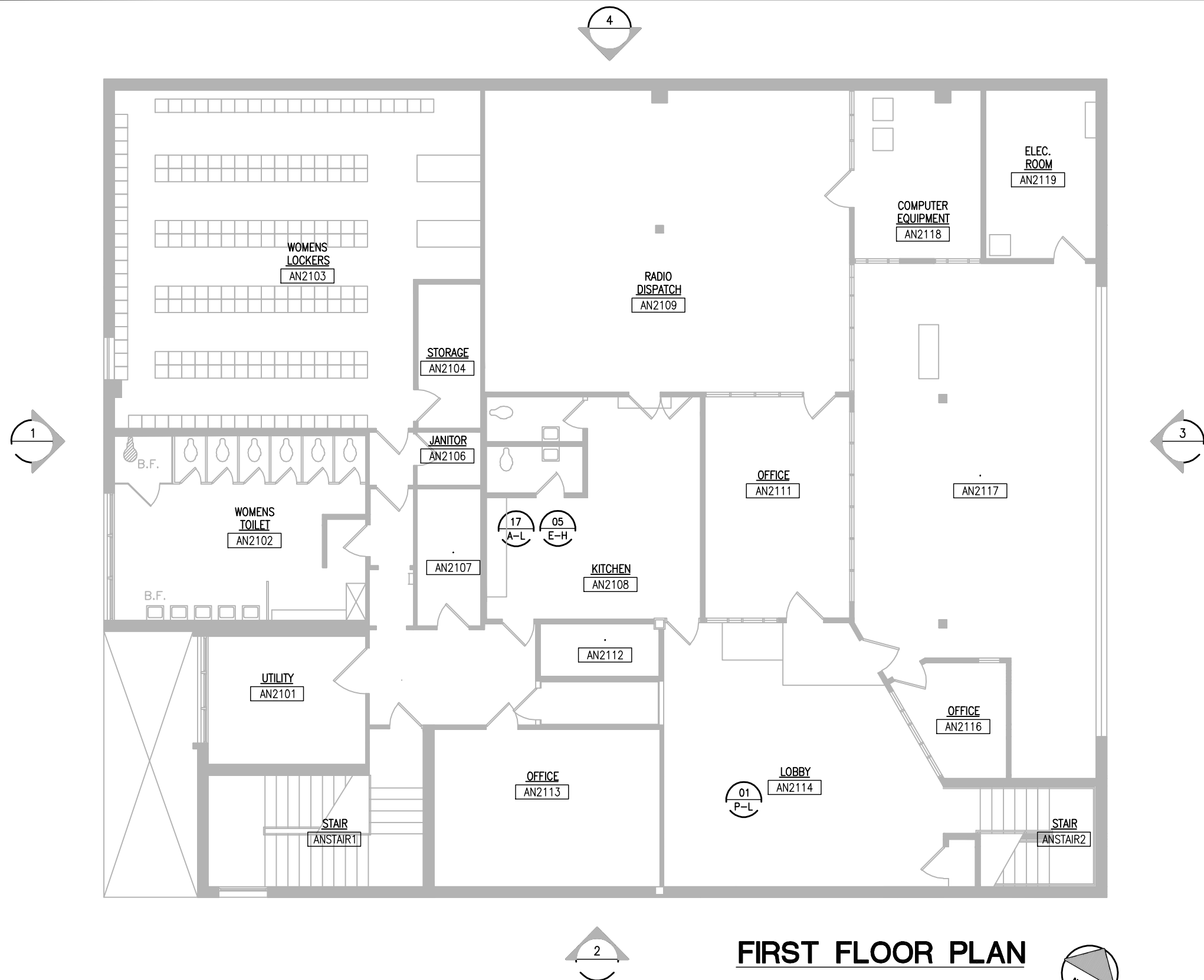
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FEDERAL TRANSIT AUTHORITY COOLIDGE FACILITY ASSESSMENT

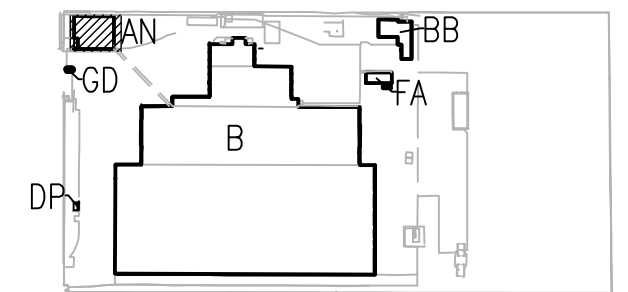
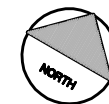
TITLE COOLIDGE SITE:
TERMINAL BUILDING

URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

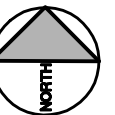
DATE 07-27-07	JOB NO.
DR.	SKETCH NO.
CK.	A-2.1



FIRST FLOOR PLAN



COOLIDGE KEY PLAN



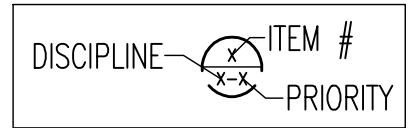
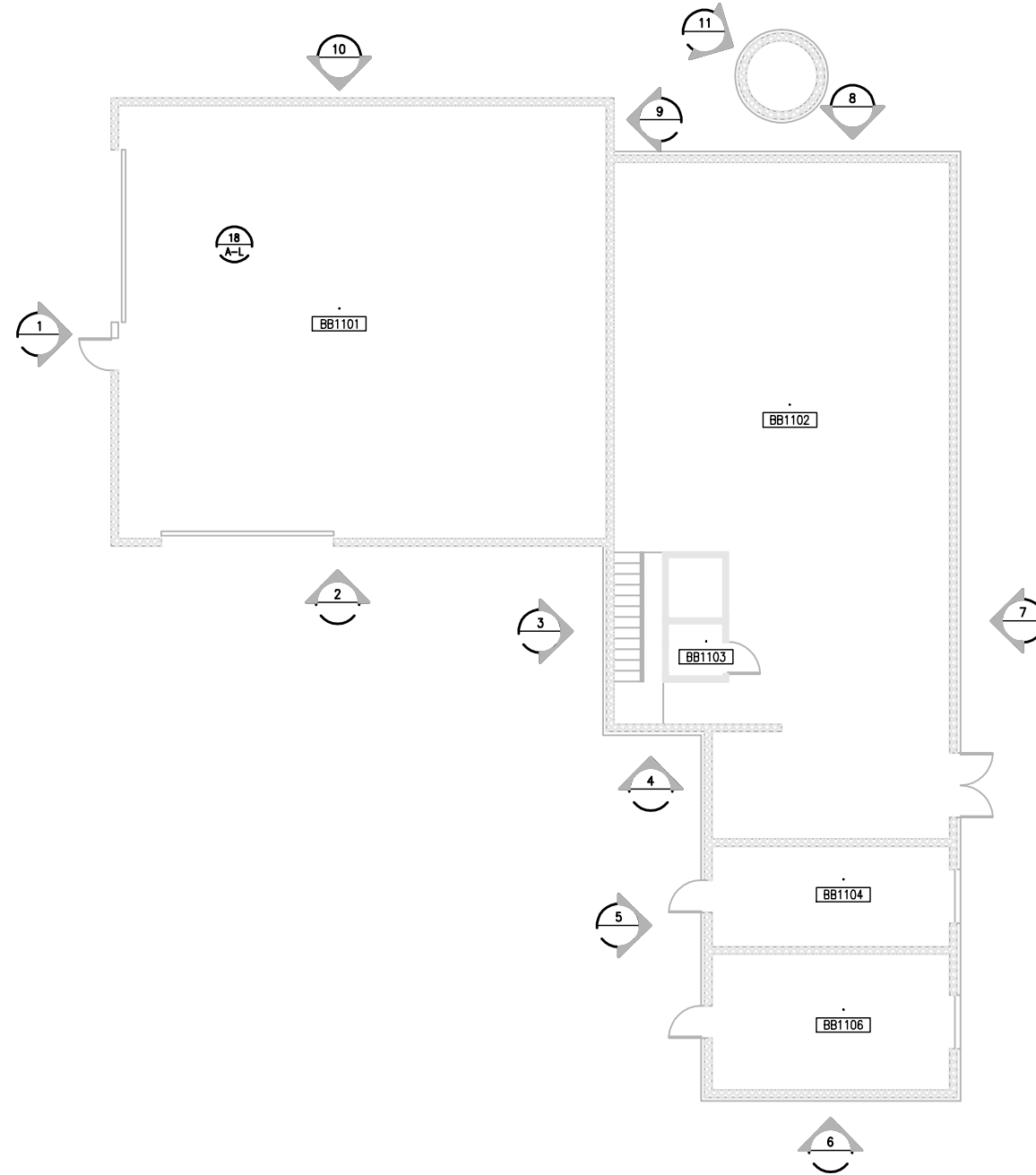
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**FEDERAL TRANSIT AUTHORITY COOLIDGE
FACILITY ASSESSMENT**

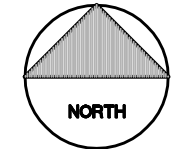
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TERMINAL BUILDING

URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

DATE 07-27-07	JOB NO.
DR.	SKETCH NO.
CK.	A-22



FIRST FLOOR PLAN AREA "A"

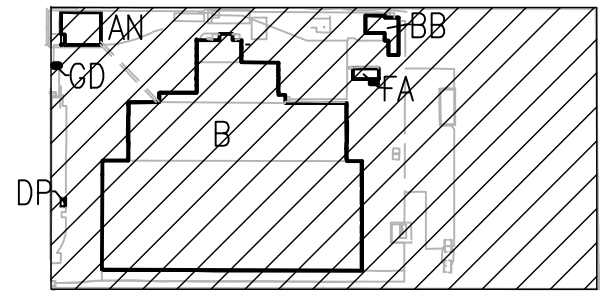
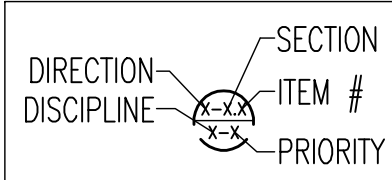
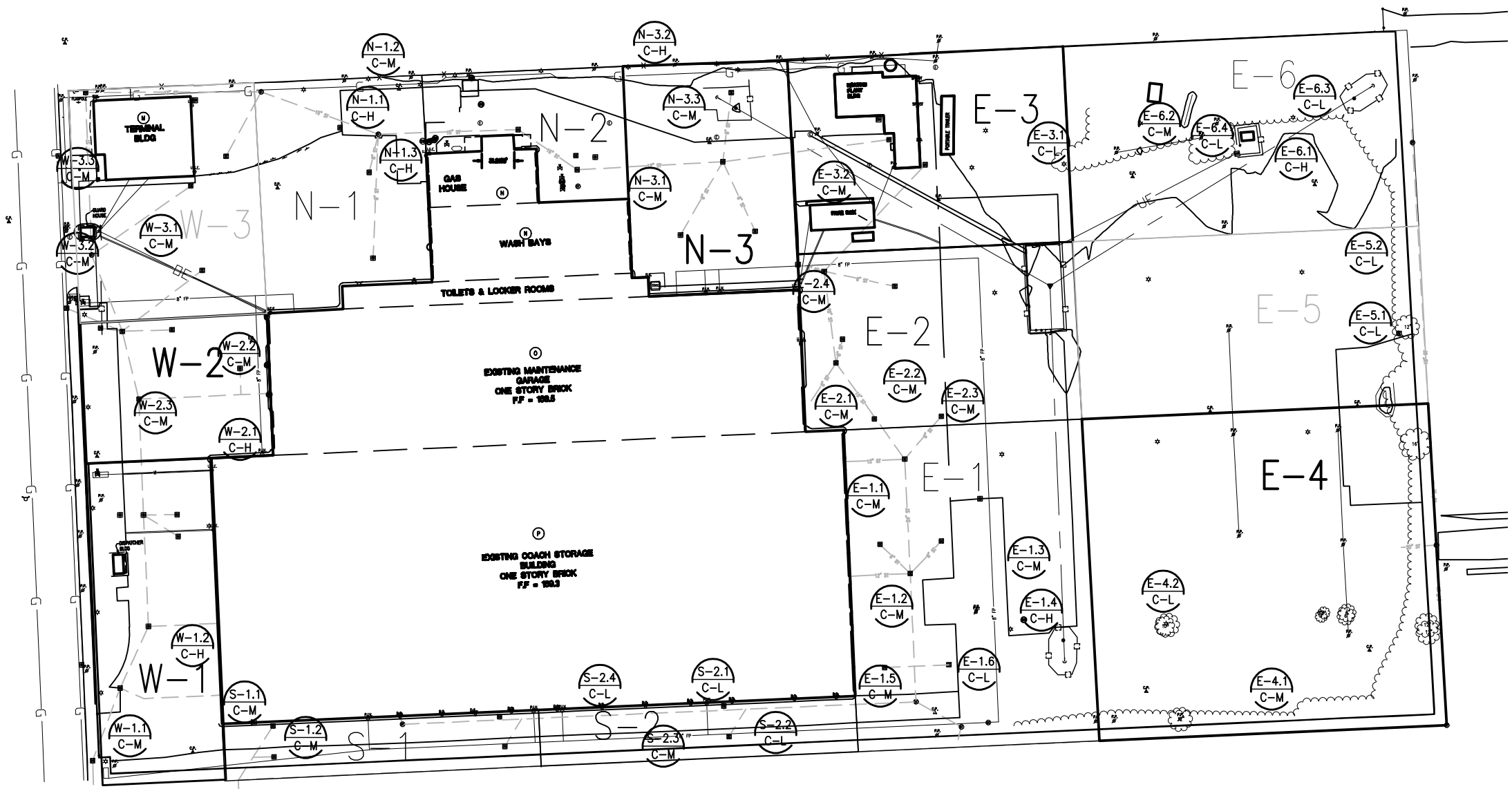


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FACILITY ASSESSMENT**

TITLE COOLIDGE SITE:
BOILER HOUSE
URS URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

DATE 07-12-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A5.1A



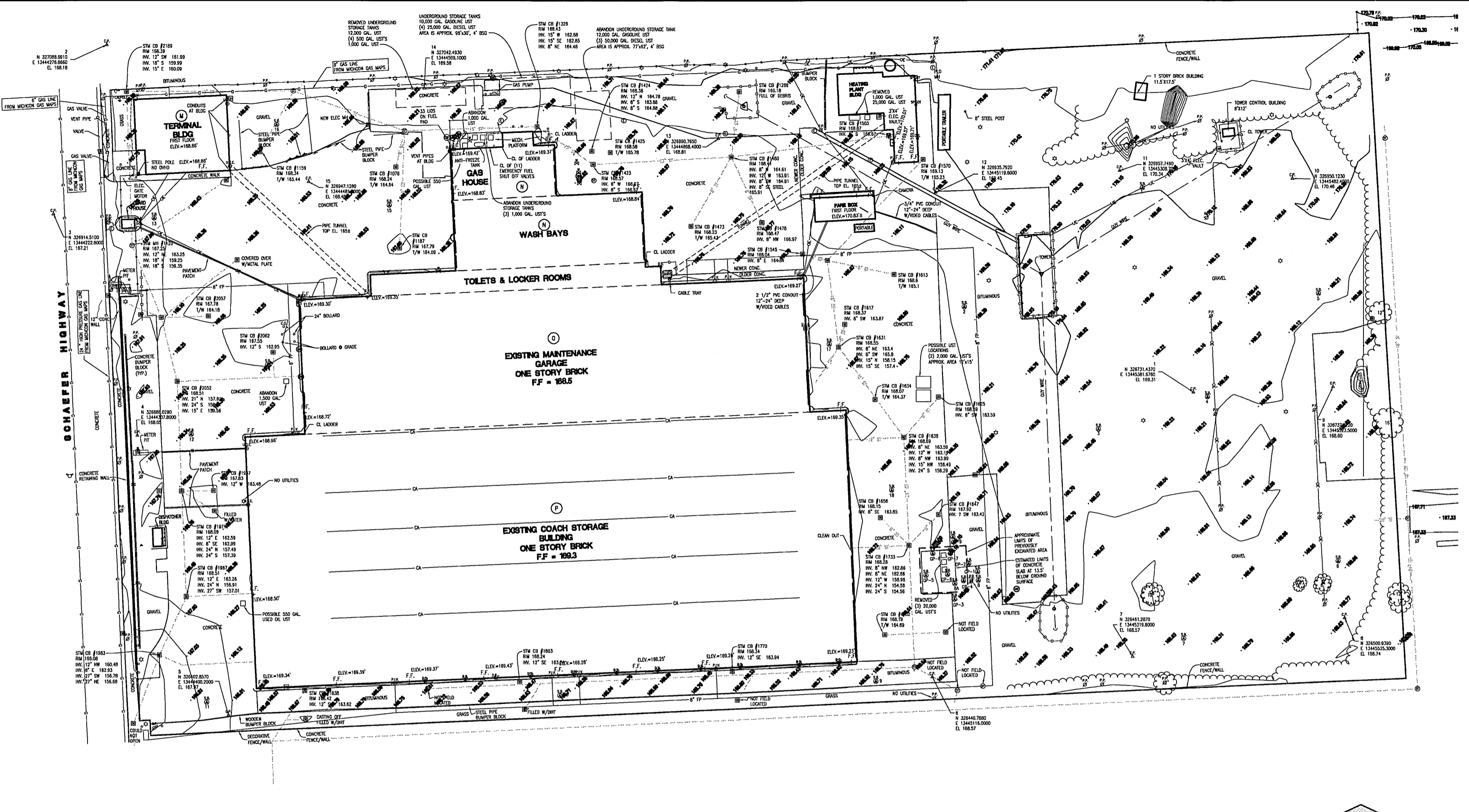
COOLIDGE KEY PLAN

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FEDERAL TRANSIT AUTHORITY COOLIDGE FACILITY ASSESSMENT

TITLE COOLIDGE SITE:
CIVIL SITE PLAN
 URS CORPORATION, FARMINGTON HILLS, MI., 248-553-9449

DATE 07-25-07	JOB NO.
DR.	SKETCH NO.
CK.	C-1.1



SITE TOPOGRAPHIC LEGEND

PROPERTY LINE	WATER VALVE	SANITARY SEWER	F. PK (FOUND PK NAIL)	CONTOUR LINE	STORM CATCH BASIN	PARKING METER	SATELLITE DISH
R.O.W.	TEMP. MONITOR	STORM SEWER	SET IRON ROD (S.I.R.)	FENCE LINE	STORM LEACHING BASIN	UNDERGROUND MARKER (GAS, ELEC., TELE, WAT., CATV)	TELEPHONE BOOTH
EASEMENT	GAS VALVE	FIRE PROTECTION SERVICE	SET P.K. NAIL	GUARDRAIL	STEAM MANHOLE	DRINKING FOUNTAIN	TRAFFIC SIGNAL
CURB & GUTTER	STAND PIPE	UNDER DRAIN	SET SPIKE	SPRINKLER HEAD	SQUARE SANITARY MANHOLE	POST INDICATOR VALVE	TRANSFORMER
EDGE OF PAVEMENT	SHRUB/BUSH	CULVERT END SECTION	CHISELED "X"	MAILBOX	MISCELLANEOUS MANHOLE	FIRE HYDRANT	BARRIER FREE RAMP
GRAVEL EDGE	DECIDUOUS TREE W/SIZE	OVERHEAD ELECTRIC	FOUND MONUMENT	ORNAMENTAL LIGHT	UTILITY POLE		FIRST FLOOR ELEV.
PLANTED AREA	CONIFEROUS TREE W/SIZE	OVERHEAD TELEPHONE	SECTION CORNER	AIR CONDITIONER	POWER POLE W/TRANSFORMER		
DITCH LINE	EDGE OF TREE AND/OR SHRUB LINE	OVERHEAD CATV	POST	ELECTRIC MANHOLE	CLEANOUT		
HANDRAILING	STUMP	UNDERGROUND CATV	ELECTRIC MANHOLE	TELEPHONE MANHOLE	LIGHT POLE		
RAILROAD TRACKS	F.I.R./F.I.P. (FOUND IRON ROD/PIPE)	OVERHEAD ELECTRIC TELEPHONE	SANITARY MANHOLE	SANITARY MANHOLE	SIGN		
SPOT ELEVATION	F.T.A. (FOUND T-IRON)	UNDERGROUND ELECTRIC	WATER MANHOLE	WATER MANHOLE	DOWNSPOUT (DS)		
GAS SERVICE		UNDERGROUND TELEPHONE	STORM MANHOLE	GAS METER	RISER (ELEC./TELE., WAT., CATV, GAS)		
WATER SERVICE		UNDERGROUND FIBER OPTIC	STORM YARD DRAIN	WATER METER	ANTENNA		

NOTES

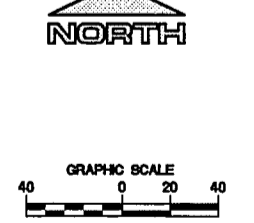
- UTILITIES SHOWN ARE FROM EXISTING MAPS, FIELD EVIDENCE AND CONSTRUCTION DRAWINGS.
- SOME SITE INFORMATION MAY NOT BE SHOWN DUE TO THE AMOUNT OF BROKEN DOWN BUSES LOCATED ON THE EASTERN 1/3 OF THE SITE.

BENCHMARKS

BM1 MONUMENT IN THE SIDE WALK LOCATED AT THE NW CORNER OF THE INTERSECTION OF SCHOOL CRAFT AND SCHAEFFER ROADS. ELEV.=183.14' CITY OF DETROIT DATUM

BM2 FLANGE BOLT ON HYDRANT BETWEEN THE "A" AND "B" IN THE WORD DETROIT. LOCATED ON THE WEST SIDE OF SCHAEFFER 500 FEET NORTH OF SCHOOL CRAFT. ELEV.=188.82'

BM3 SET 1/2" IRON ROD LOCATED 10' EAST OF A BRICK RETAINING WALL AT THE EAST ROW OF SCHAEFFER. ALSO 350' SOUTH OF THE NORTH PROPERTY LINE. ELEV.=188.05'



ABBREVIATIONS

I.E. = INVERT ELEVATION	Y.D. = STORM YARD DRAIN
T.O.P. = TOP OF PIPE	ST. = STORM SYSTEM
C.B. = STORM CATCH BASIN	SN. = SANITARY SYSTEM
M.A. = MANHOLE (ANY UTILITY)	C & G = CURB & GUTTER
L.S. = STORM LEACH BASIN	F.F.E. = FIRST FLOOR ELEVATION
C.P. = CONTROL POINT WITH NUMBER	W.M. = WATER MAIN
	N.F.L. = NOT FIELD LOCATED

REVISIONS

THIS INFORMATION SHOWN ON THIS DRAWING WAS BASED UPON THE SITE SURVEY & A FIELD SURVEY. URS DOES NOT GUARANTEE TO BE COMPLETE OR CORRECT. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

DATE ISSUED FOR

DRAWN	DATE
CHECKED	DATE
APP. DATE	DATE
IN CHARGE	DATE

400 MONROE STREET, SUITE 100
ANN ARBOR, MICHIGAN 48106
313-981-8777

URS

DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)
COOLIDGE FACILITY - SITE 'B'
DETROIT, MICHIGAN

TOPOGRAPHIC SURVEY

DRAWING
CO.1B

FILE
13647472

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O.H. FRISBIE MOVING AND STORAGE PROPERTY
14226 SCHAEFER HWY.

4" DIAMETER HIGH PRESSURE GAS MAIN

OVERHEAD ELECTRIC

EXCAVATION BOUNDARY

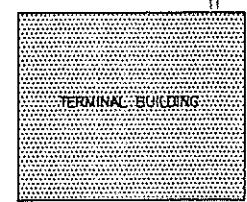
FORMER AST PIPING TO PUMP HOUSE

VAULT

FORMER DIESEL AST SYSTEM AND CONTAINMENT
(4 X 30,000-GALLON ASTs)

GAS MAIN

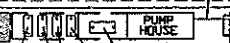
PROPERTY BOUNDARY/
FENCE LINE



TERMINAL BUILDING

WATER LINE

OIL/WATER SEPARATOR



PUMP HOUSE

FORMER AST FUEL DELIVERY LINE

CONCRETE

CONCRETE

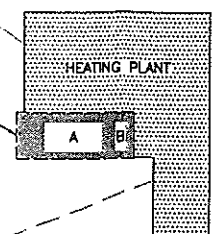
GAS HOUSE

OIL/WATER SEPARATOR

CONCRETE

FORMER COMMUNICATION LINE

EXCAVATION BOUNDARY



HEATING PLANT

UTILITY CONDUIT

FARE BOX HOUSE

GATE HOUSE

6" HIGH PRESSURE FIRE MAIN

VENT

CONCRETE

EXCAVATION BOUNDARY

SERVICE GARAGE

CONCRETE

COMMERCIAL PROPERTY (VACANT BODY SHOP)

SCHAEFER HIGHWAY

DISPATCHER'S OFFICE

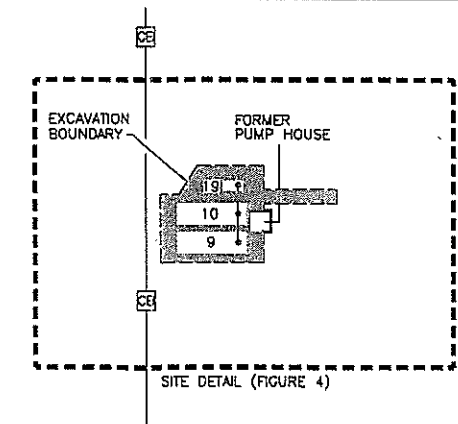
COOLIDGE FACILITY
14044 SCHAEFER HWY.

STORAGE GARAGE

Legend

UST TANK # AND DESCRIPTION

- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
 - 5 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 6 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
 - 8 FORMER DEXTRON - 1,000 GAL-CIP
 - 9 FORMER ENGINE OIL - 20,000 GAL-REMOVED
 - 10 FORMER ENGINE OIL - 20,000 GAL-REMOVED
 - 11 FORMER WASTE OIL - 1,500 GAL-CIP
 - 12 FORMER GASOLINE - 12,000 GAL-REMOVED
 - 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
 - 19 FORMER GASOLINE - 12,000 GAL-REMOVED
 - A FORMER HEATING OIL - 25,000 GAL
 - B FORMER HEATING OIL - 1,000 GAL
- CIP CLOSED IN PLACE
UST UNDERGROUND STORAGE TANK
AST ABOVE GROUND STORAGE TANK
GAL GALLON



NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE

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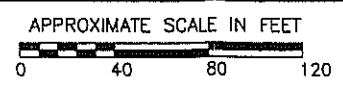
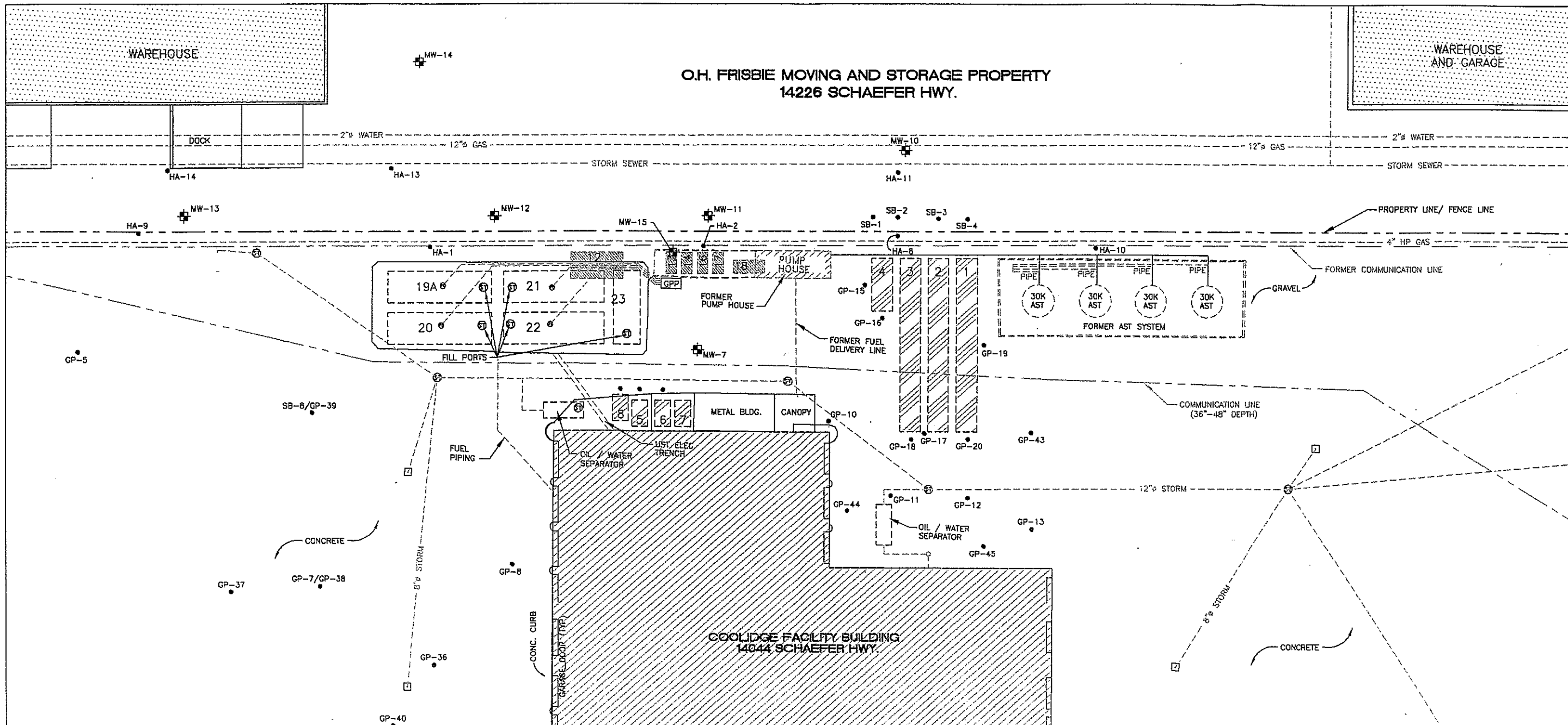


FIGURE 2
FORMER UST LOCATIONS AND EXCAVATION BOUNDARIES
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

O.H. FRISBIE MOVING AND STORAGE PROPERTY
14226 SCHAEFER HWY.



Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- AST ABOVE GROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- SOIL BORING
- ⊕ MONITOR WELL
- CATCH BASIN
- ⊙ STORM MH
- ⊙ FILL PORT
- ⊕ GAS DISPENSER
- UNDERGROUND UTILITY

UST # AND DESCRIPTION

- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
- 5 FORMER ENGINE OIL - 1,000 GAL-CIP
- 6 FORMER ENGINE OIL - 1,000 GAL-CIP
- 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
- 8 FORMER DEXTRON - 1,000 GAL-CIP

UST # AND DESCRIPTION

- 12 FORMER GASOLINE - 12,000 GAL-REMOVED
- 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
- 19A DIESEL 25,000 GAL - IN OPERATION

UST # AND DESCRIPTION

- 20 DIESEL 25,000 GAL - IN OPERATION
- 21 DIESEL 25,000 GAL - IN OPERATION
- 22 DIESEL 25,000 GAL - IN OPERATION
- 23 GASOLINE 10,000 GAL - IN OPERATION
- CIP CLOSED-IN-PLACE
- GAL GALLON



FILE LOCATION: V:\Projects 1999\99999-7\Dwg\Construction\A0204015.dwg

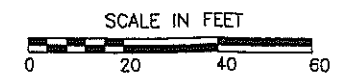


FIGURE 3
SITE SKETCH
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

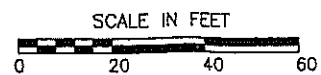
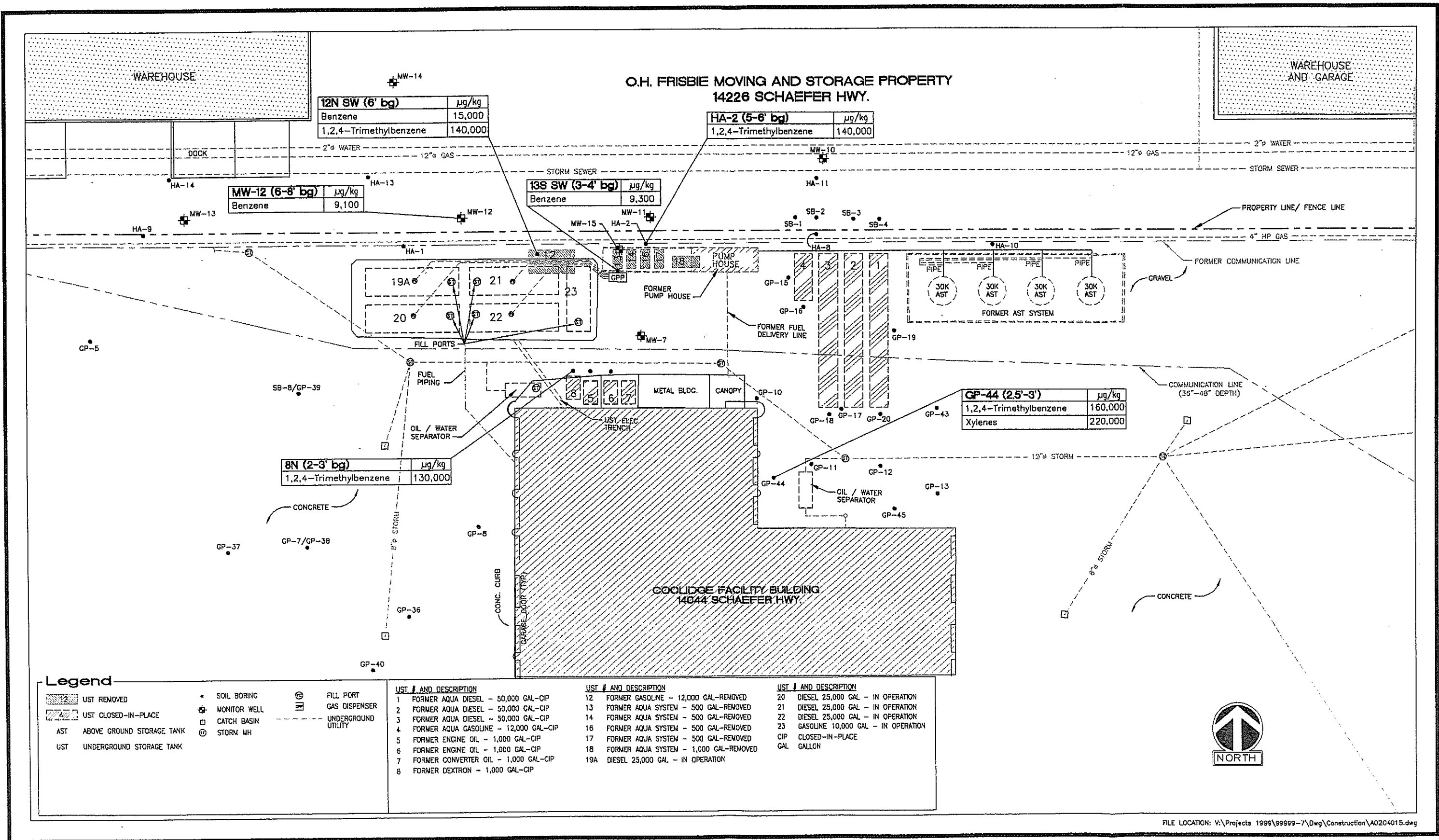
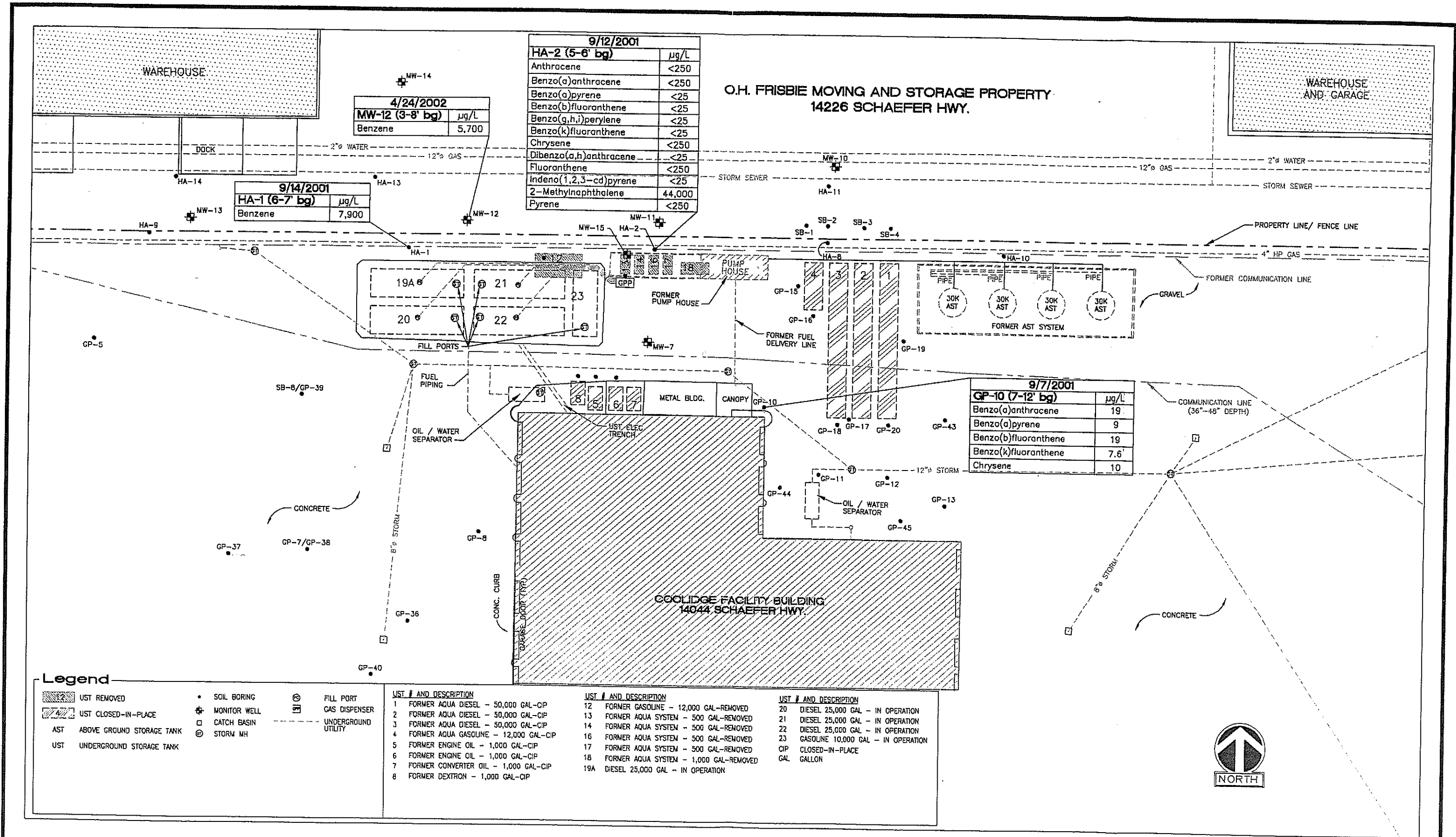


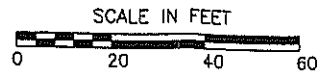
FIGURE 5
MAXIMUM SOIL CONCENTRATIONS
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



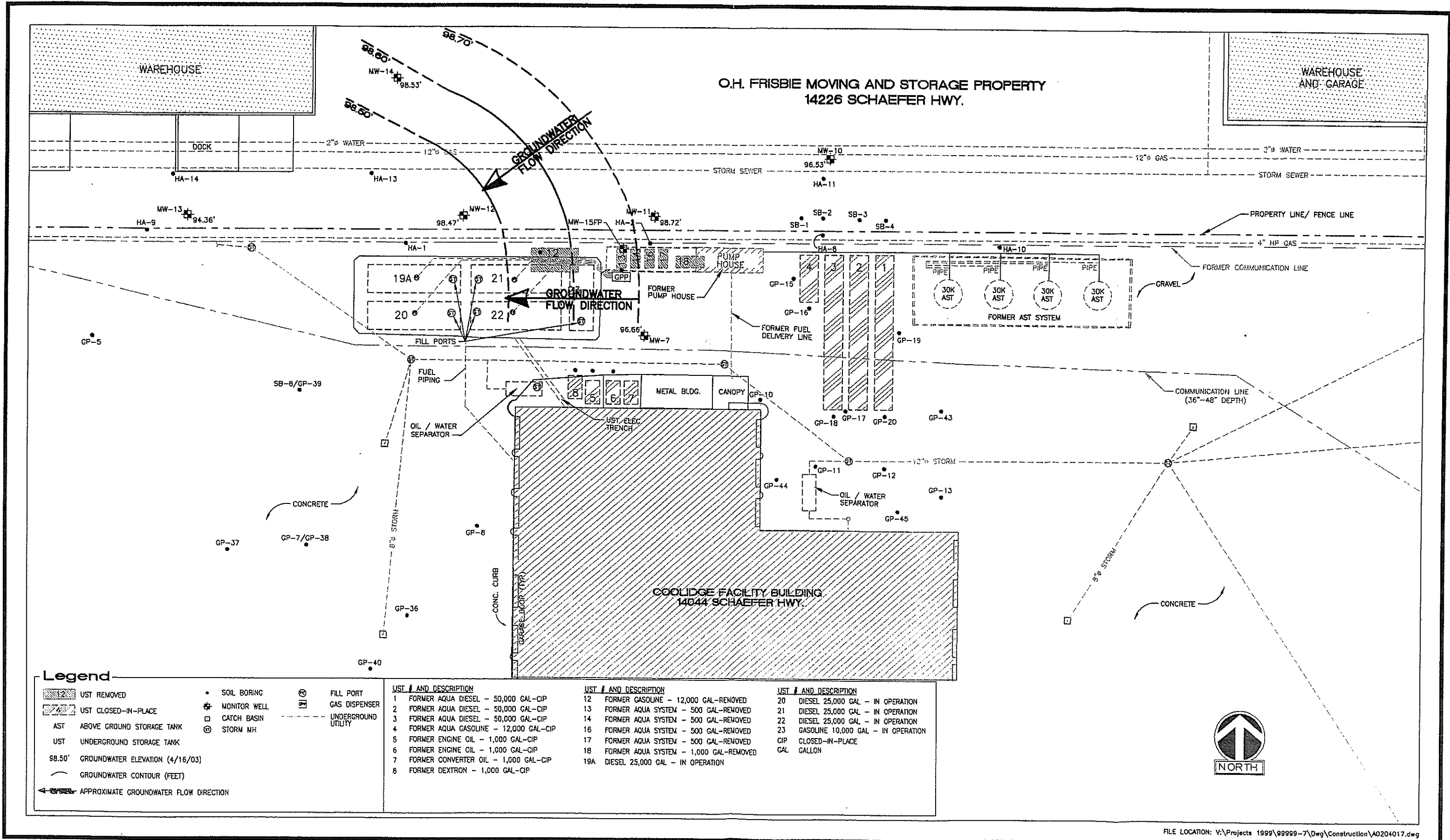
Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- AST ABOVE GROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- SOIL BORING
- MONITOR WELL
- CATCH BASIN
- STORM MH
- FILL PORT
- GAS DISPENSER
- UNDERGROUND UTILITY

- | UST # AND DESCRIPTION | | |
|-----------------------|--|--|
| 1 | FORMER AQUA DIESEL - 50,000 GAL-CIP | |
| 2 | FORMER AQUA DIESEL - 50,000 GAL-CIP | |
| 3 | FORMER AQUA DIESEL - 50,000 GAL-CIP | |
| 4 | FORMER AQUA GASOLINE - 12,000 GAL-CIP | |
| 5 | FORMER ENGINE OIL - 1,000 GAL-CIP | |
| 6 | FORMER ENGINE OIL - 1,000 GAL-CIP | |
| 7 | FORMER CONVERTER OIL - 1,000 GAL-CIP | |
| 8 | FORMER DEXTRON - 1,000 GAL-CIP | |
| 12 | FORMER GASOLINE - 12,000 GAL-REMOVED | |
| 13 | FORMER AQUA SYSTEM - 500 GAL-REMOVED | |
| 14 | FORMER AQUA SYSTEM - 500 GAL-REMOVED | |
| 16 | FORMER AQUA SYSTEM - 500 GAL-REMOVED | |
| 17 | FORMER AQUA SYSTEM - 500 GAL-REMOVED | |
| 18 | FORMER AQUA SYSTEM - 1,000 GAL-REMOVED | |
| 19A | DIESEL 25,000 GAL - IN OPERATION | |
| 20 | DIESEL 25,000 GAL - IN OPERATION | |
| 21 | DIESEL 25,000 GAL - IN OPERATION | |
| 22 | DIESEL 25,000 GAL - IN OPERATION | |
| 23 | GASOLINE 10,000 GAL - IN OPERATION | |
| CIP | CLOSED-IN-PLACE | |
| GAL | GALLON | |



**FIGURE 6
MAXIMUM GROUNDWATER CONCENTRATIONS
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN**



O.H. FRISBIE MOVING AND STORAGE PROPERTY
14226 SCHAEFER HWY.

COOLIDGE FACILITY BUILDING
14044 SCHAEFER HWY.

Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- AST ABOVE GROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- 98.50' GROUNDWATER ELEVATION (4/16/03)
- GROUNDWATER CONTOUR (FEET)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- SOIL BORING
- ⊕ MONITOR WELL
- CATCH BASIN
- ⊙ STORM MH
- ⊕ FILL PORT
- ⊕ GAS DISPENSER
- UNDERGROUND UTILITY

UST # AND DESCRIPTION

- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
- 5 FORMER ENGINE OIL - 1,000 GAL-CIP
- 6 FORMER ENGINE OIL - 1,000 GAL-CIP
- 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
- 8 FORMER DEXTRON - 1,000 GAL-CIP

UST # AND DESCRIPTION

- 12 FORMER GASOLINE - 12,000 GAL-REMOVED
- 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
- 19A DIESEL 25,000 GAL - IN OPERATION

UST # AND DESCRIPTION

- 20 DIESEL 25,000 GAL - IN OPERATION
- 21 DIESEL 25,000 GAL - IN OPERATION
- 22 DIESEL 25,000 GAL - IN OPERATION
- 23 GASOLINE 10,000 GAL - IN OPERATION
- CIP CLOSED-IN-PLACE
- GAL GALLON

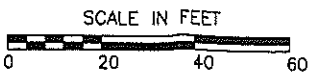


FIGURE 7
GROUNDWATER CONTOUR
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



O.H. FRISBIE MOVING AND STORAGE PROPERTY
14226 SCHAEFER HWY.

PROPERTY BOUNDARY/
FENCE LINE

4" HIGH
PRESSURE GAS MAIN

5 HP SUBMERSIBLE AND SUMP SENSOR

UST SIPHONED BRIDGING

UST MONITOR

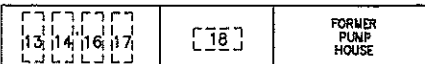
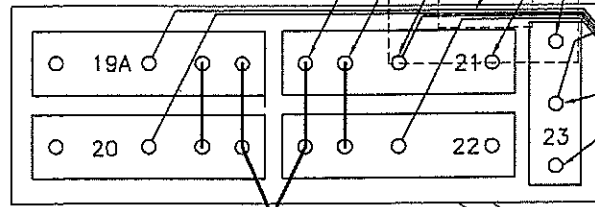
EXTENT OF EXCAVATION

VENT LINES (5 PLACES)

UST FILL WITH SPILL CONTAINMENT

UST FILL WITH SPILL CONTAINMENT

FORMER AST
PUMPING TO
PUMP HOUSE

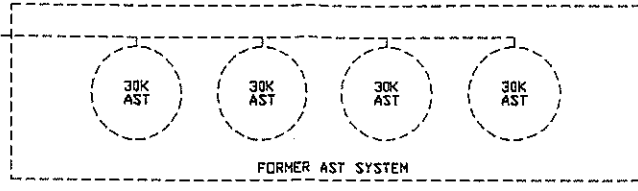


GASOLINE DISPENSER SUMP

UST MONITOR

3/4 HP SUBMERSIBLE AND SUMP SENSOR

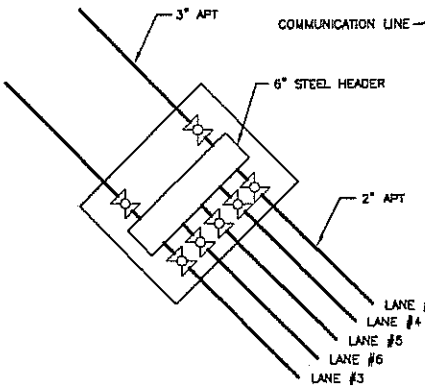
FORMER AST
FUEL DELIVERY LINE



FORMER AST SYSTEM

FORMER OVER HEADER

AUTOSTIK, POWER DISTRIBUTION
PANEL, PUMP CONTROLS



TRANSITION SUMP 1 DETAIL
NO SCALE

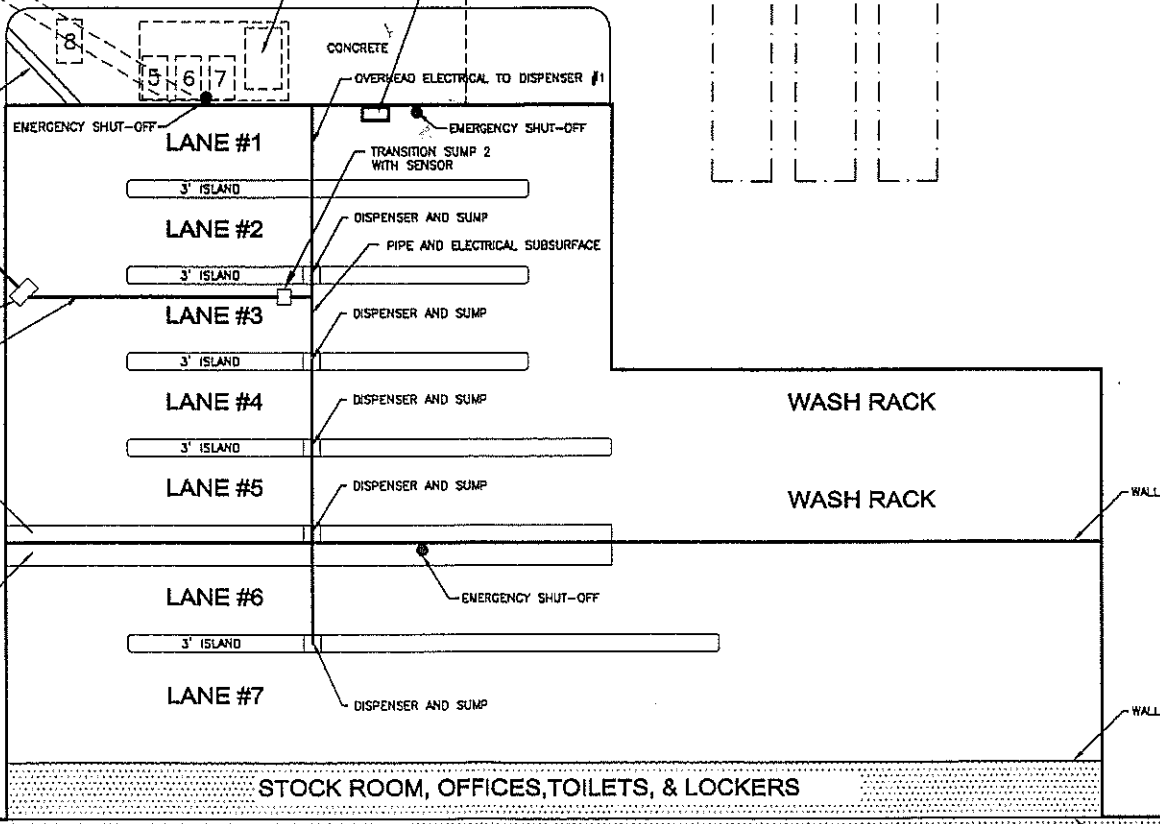
(2) 3" APT PIPE
FROM UST FARM

TRANSITION
SUMP 1 WITH SENSOR

(5) 2" APT PIPE
TO DISPENSERS

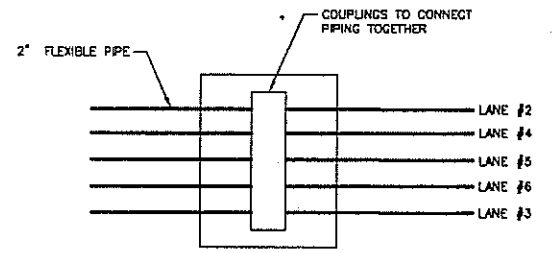
3' SIDE WALK

4' SIDE WALK



STOCK ROOM, OFFICES, TOILETS, & LOCKERS

COOLIDGE FACILITY BUILDING
14044 SCHAEFER HWY.



TRANSITION SUMP 2 DETAIL
NO SCALE

Legend

UST# AND DESCRIPTION

- 12 - FORMER GASOLINE - 12,000 GAL REMOVED
- 13 - FORMER AQUA SYSTEM - 500 GAL REMOVED
- 14 - FORMER AQUA SYSTEM - 500 GAL REMOVED
- 16 - FORMER AQUA SYSTEM - 500 GAL REMOVED
- 17 - FORMER AQUA SYSTEM - 500 GAL REMOVED
- 18 - FORMER AQUA SYSTEM - 1,000 GAL REMOVED
- 8 - FORMER DEXTRON - 1,000 GAL CLOSED IN PLACE
- 5 - FORMER ENGINE OIL - 1,000 GAL CLOSED IN PLACE
- 6 - FORMER ENGINE OIL - 1,000 GAL CLOSED IN PLACE
- 7 - FORMER CONVERTER OIL - 1,000 GAL CLOSED IN PLACE
- 19A - DIESEL 25,000 GAL - IN OPERATION
- 20 - DIESEL 25,000 GAL - IN OPERATION
- 21 - DIESEL 25,000 GAL - IN OPERATION
- 22 - DIESEL 25,000 GAL - IN OPERATION
- 23 - GASOLINE 10,000 GAL - IN OPERATION
- CIP - CLOSED-IN-PLACE
- GAL - GALLON

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE

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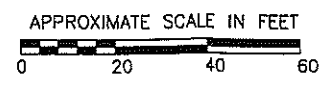


FIGURE 8
SCHEMATIC OF UST SYSTEM
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



Gannett Fleming

*Excellence Delivered **As Promised***

April 11, 2013
File # 54910.001

Mr. Pewu Bah-Deh
Michigan Department of Environmental Quality
Remediation & Redevelopment Division
Southeast Michigan District Office
27700 Donald Court
Warren, Michigan 48092

Re: *DDOT Schaefer Hwy Bus Depot - **DRAFT***

Dear Mr. Bah-Deh,

Gannett Fleming of Michigan, Inc. (Gannett Fleming) was tasked by the Michigan Department of Environmental Quality – Remediation & Redevelopment Division (MDEQ-RRD) to complete sub-slab soil gas probe installation and sampling at the City of Detroit-DOT property, located at 14044 Schaefer Highway in Detroit, Wayne County, Michigan (Figure 1). This Technical Memorandum provides a summary of previous work completed at the Site, a description of the investigation activities conducted in March 2013, and the results of these activities.

Sub-Slab Probe Installation and Sampling

On March 12, 2013, Gannett Fleming installed five sub-slab sampling points at the Site, three along the inside of the north garage building wall and two along the inside of the west building wall. These were installed to determine whether residual contaminants in soil could pose an indoor air inhalation risk to users of the building. The sub-slab sampling was conducted in general accordance with the MDEQ's *Draft - Guidance Document for the Vapor Intrusion Pathway*, May 2012, submitted to and approved by the MDEQ. The locations of the sampling points are depicted on Figure 2.

The sub-slab sampling points were installed directly below the concrete slab with a 3 inch screened interval. The borehole was drilled using a hand held rotary hammer drill with a 1 inch diameter drill bit. When the implant was installed, a 1 inch diameter stopper plug was used to seal the screened interval from the surface. Grout was used around the outside of the stopper plug to ensure a good seal. The implant was covered with a cone until sampling. After sampling, the sub-slab probes were removed and the concrete was repaired to its original condition.

Gannett Fleming collected all five sub-slab soil gas samples from the newly installed sampling

Gannett Fleming of Michigan, Inc.

Plymouth Oaks Business Center II • Suite 102 • 44099 Plymouth Oaks Blvd. • Plymouth, MI 48170

t: 734.459.6955 • f: 734.459.6720

www.gannettfleming.com

points on March 14, 2013. Prior to sampling, three volumes of air were purged from the point using a 30cc syringe connected to a three-way valve. A valve and tubing system was affixed to the implant and connected to a pass through valve on a plastic "dome" that was sealed to the floor and filled with helium, to be used as a tracer compound. The helium was inserted into the dome through a separate valve mechanism. If no helium was detected in the tubing during the pre-sampling test, the soil gas sample would then be collected.

Soil gas samples were collected with laboratory supplied amber glass bottles equipped with a pressure gauge and regulator. The sample train was removed and the sampling bottle was connected directly to the sampling point with a section of polyethylene tubing. Sampling was completed when the pressure gauge read 0.0 inches of mercury (in Hg). After each sample was collected, the air inside the sample train was purged for at least five minutes using a small pump. This was done in an attempt to reduce the possibility of cross contamination between samples. The soil gas samples were delivered to the MDEQ Laboratory, located in Lansing, Michigan (MDEQ Laboratory) following Gannett Fleming's chain-of-custody protocol and analyzed for volatile organic compounds (VOCs) using USEPA Method TO-15 modified.

Sub-Slab Soil Gas Sampling Results

Soil gas sampling results were compared to Sub-Slab Industrial Acceptable Soil Gas Screening Concentrations, summarized in the MDEQ's *Draft Operational Memo No. 4 Attachment 4*, dated June 2008. This memo is still under review and criteria are used as reference only. Various petroleum and chlorinated VOCs were detected above laboratory detection limits in all five soil gas samples, in both field blank samples, and in the duplicate sample; however none exceeded the applicable draft criteria. One sample from SGP-2 contained benzene concentrations equal to the RBSL. Both field blank samples contained VOC contaminants, this suggests that the samples were most likely cross contaminated. Gannett Fleming personnel used the same tubing that was connected to the helium chamber for each sample as opposed to using new tubing for each sample. The helium chamber and the tubing connected to it, should have been used for leak detection purposes only and not during the actual sample collection. Analytical results are summarized in Table 1 and the original laboratory reports are included in Attachment A.

Conclusions

Four of the five sampling points contained VOC contaminants at generally low concentrations. Contaminants found in the sample from SGP-2 were much higher in concentration than the other four sampling points. SGP-2 was purposely sampled last, because during the probe installation, Gannett Fleming personnel could smell an unpleasant odor coming from the hole where SGP-2 was installed.

April 11, 2013
Mr. Pewu Bah-Deh
Page 3 of 3

In an effort to correct the mistake with the helium chamber apparatus and cross contamination issues, Gannett Fleming met with MDEQ staff to review the proper procedures for using the helium dome apparatus.

Please contact me at (734) 459-6955 if you have any questions or require additional information.

Sincerely,
GANNETT FLEMING OF MICHIGAN, INC.

A handwritten signature in blue ink, appearing to read "Craig A. Savage".

Craig A. Savage, CPG.
Senior Project Manager

Enclosure

TABLES

MDEQ - RRD
DETROIT DOT
SCHAEFER HWY BUS GARAGE

TABLE 1
SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS

Sample ID	SUB-SLAB Non-Residential Acceptable Soil Gas Screening Concentration	SGP-1		SGP-2		SGP-3		SGP-4		SGP-5		Field Blank-1		Field Blank-2		Dup-1						
Date Collected		3/14/2013		3/14/2013		3/14/2013		3/14/2013		3/14/2013		3/14/2013		3/14/2013		3/14/2013						
VOLATILE ORGANIC COMPOUNDS (VOCs)																						
Date Analyzed		3/25/2013				3/25/2013				3/27/2013				3/27/2013								
Analytical Method No.		TO-15 Modified				TO-15 Modified				TO-15 Modified				TO-15 Modified								
Collection Method		GS				GS				GS				GS								
TARGET COMPOUNDS (ug/m ³)		Conc.		RL		Conc.		RL		Conc.		RL		Conc.		RL						
1,2,4-Trimethylbenzene	1.3E+05	< 14	14	1,200	14	5.7	1.5	2.2	1.5	6.5	1.5	4.0	1.4	570	14	12	1.5					
1,3,5-Trimethylbenzene	1.3E+05	< 14	14	650	14	2.2	1.5	< 1.5	1.5	2.6	1.5	< 1.4	1.4	260	14	6.1	1.5					
1,4-Dichlorobenzene	2.6E+03	< 18	18	< 18	18	< 1.8	1.8	< 1.8	1.8	< 1.8	1.8	< 1.8	1.8	< 18	18	< 1.8	1.8					
2,2,4-Trimethylpentane	2.0E+06	230	14	25,000	690	3.3	[6]	1.4	5.8	[6]	1.4	3.5	[6]	1.4	< 1.4	1.4	680	14	240	[6]	1.4	
Acetonitrile	3.5E+04	< 16	16	63	16	< 1.7	[5]	1.7	< 1.7	[5]	1.7	< 1.7	[5]	1.7	< 1.6	[5]	1.6	< 16	16	1.7	[5]	1.7
Benzene	2.2E+03	< 9.4	9.4	2,200	9.4	3.8	0.95	< 0.95	0.95	< 0.95	0.95	1.2	0.94	99	9.4	3.2	0.95					
Chloroform	7.6E+03	< 14	14	< 14	14	27	1.4	< 1.4	1.4	4.4	1.4	< 1.4	1.4	< 14	14	< 1.4	1.4					
Chloromethane	2.9E+04	< 6.1	6.1	< 6.1	6.1	0.83	[5]	0.61	< 0.61	[5]	0.61	< 0.61	[5]	0.61	0.79	0.61	< 6.1	6.1	0.8	[5]	0.61	
Dichlorodifluoromethane	2.9E+07	< 15	15	< 15	15	1.7	1.5	< 1.5	1.5	< 1.5	1.5	1.7	1.5	< 15	15	< 1.5	1.5					
Ethylbenzene	5.9E+04	< 13	13	2,900	13	3.5	1.3	1.4	1.3	1.6	1.3	1.7	1.3	680	13	9.0	1.3					
Hexane	4.1E+05	< 34	34	18,000	1,700	< 3.5	3.5	< 3.5	3.5	< 3.5	3.5	< 3.5	3.5	< 3.5	3.5	320	34	51	3.5			
m & p - Xylene	NPC	< 13	13	10,000	640	12	1.3	5.9	1.3	13	1.3	6.5	1.3	1,800	13	56	1.3					
Methylene chloride	3.9E+04	< 10	10	< 10	10	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0	< 10	10	< 1.0	1.0					
o - Xylene	NPC	< 13	13	2,700	13	4.7	1.3	2.5	1.3	6.3	1.3	2.6	1.3	600	13	20	1.3					
Tetrachloroethylene	2.3E+04	< 20	20	< 20	20	< 2.0	2.0	< 2.0	2.0	< 2.0	2.0	< 2.0	2.0	< 20	20	< 2.0	2.0					
Toluene	2.9E+06	12	11	3,400	11	42	1	7.9	1	8.1	1.1	10	1	700	11	31	1.1					
Trichlorofluoromethane	3.3E+07	< 16	16	< 16	16	< 1.7	1.7	< 1.7	1.7	< 1.7	1.7	< 1.7	1.7	< 16	16	< 1.7	1.7					
Xylenes (total)	5.8E+04	< 26	26	12,700	653	16.7	2.6	8.4	2.6	19.3	2.6	9.1	2.6	2,400	26	76	2.6					

NOTES:

Only detected analytes shown, see lab report for full analyte list.

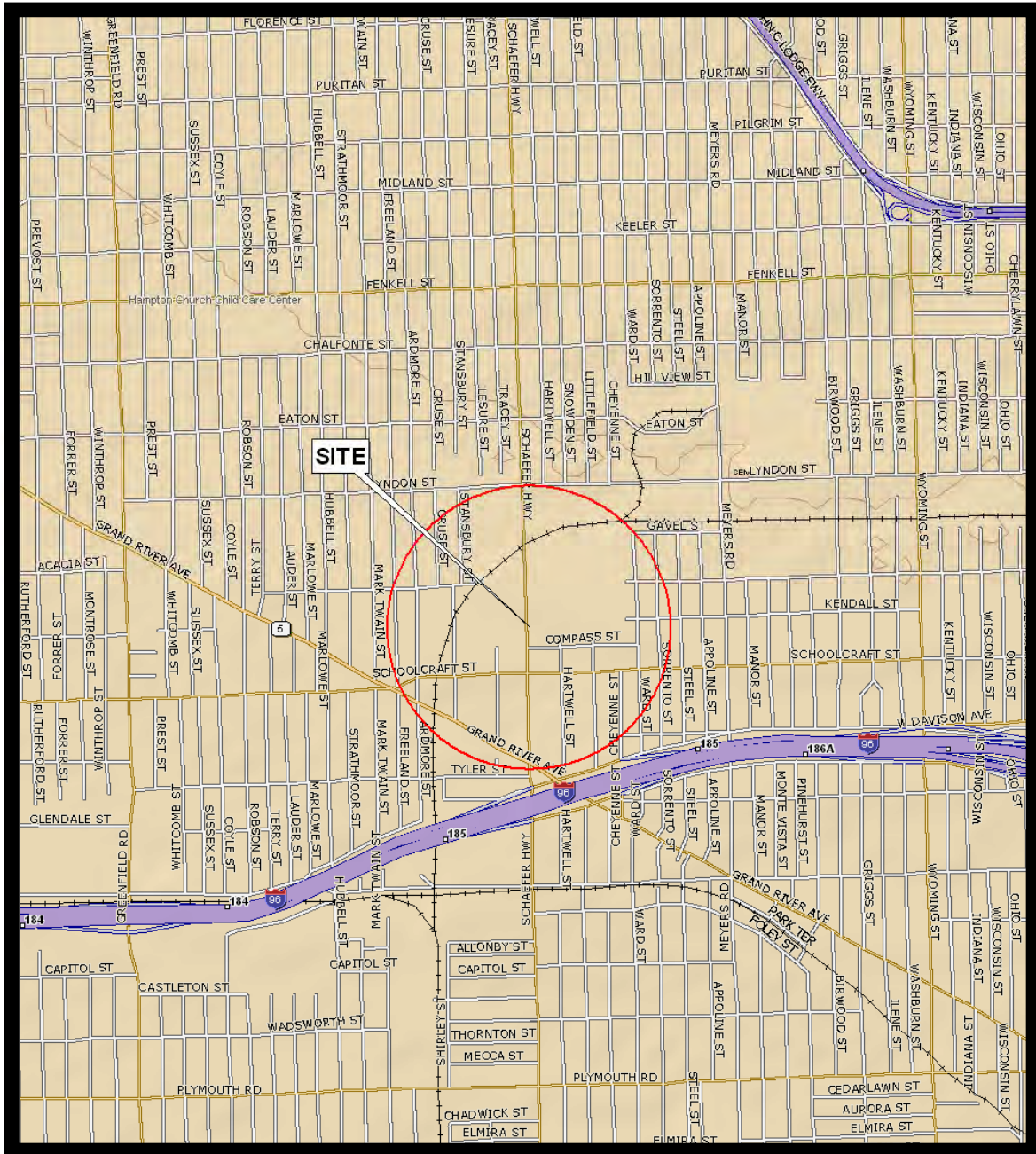
ug/m³ = micrograms per cubic meter

GS = Grab Sample

RL = Reporting Limit

Bolded = Indicates concentration exceeds laboratory method detection limit.

FIGURES



SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN

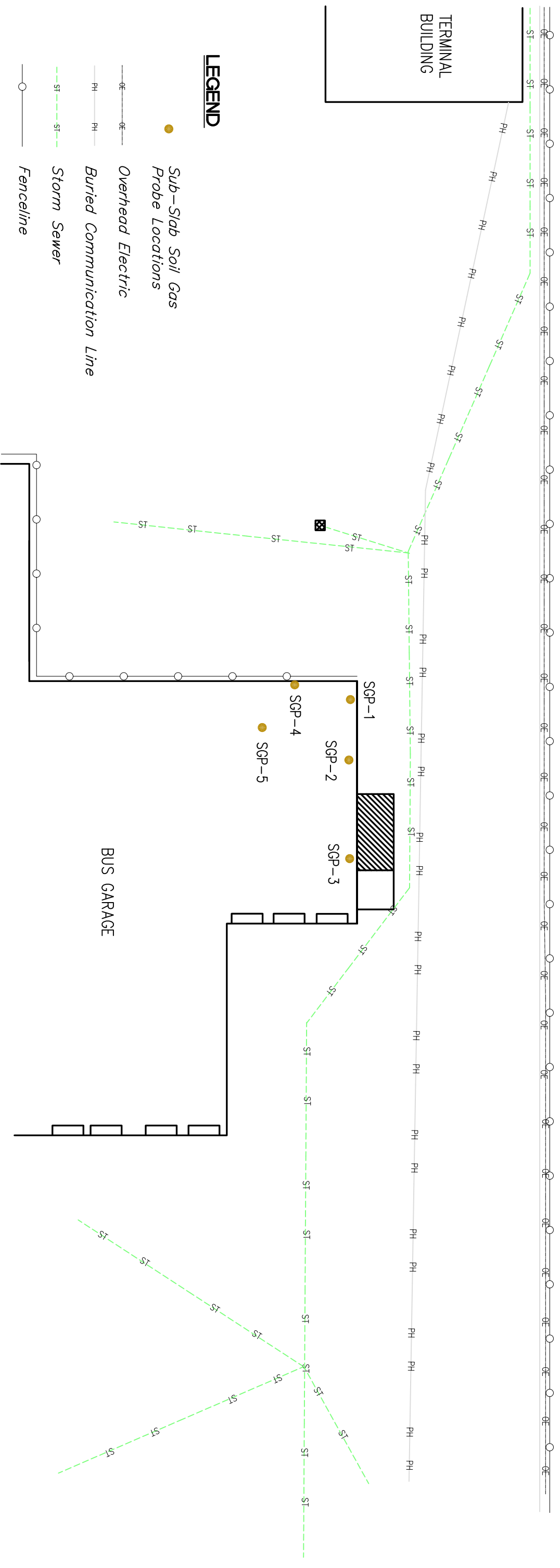


SITE LOCATION MAP
MDEQ-RD
CITY OF DETROIT – 14044 SCHAEFER
DETROIT, MICHIGAN



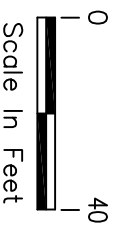


COMMERCIAL WAREHOUSE & SHIPPING



LEGEND

- Sub-Slab Soil Gas Probe Locations
- Overhead Electric
- PH— Buried Communication Line
- - - ST - - - Storm Sewer
- Fenceline
- ⊠ Catch Basin



**SUB-SLAB
SOIL GAS PROBE
LOCATIONS**

MDEQ-RRD
CITY OF DETROIT (DDOT)
DETROIT, MICHIGAN

ATTACHMENTS

ATTACHMENT 1
MDEQ LABORATORY ANALYTICAL REPORTS



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Division: RRD
Report to: PEWU BAH-DEH
MDEQ-RRD-WARREN
SOUTHEAST MICHIGAN DISTRICT OFF
27700 DONALD COURT, WARREN, MI 48092-2793

Lab Work Order #: 30300115
Work Site ID: 82002470
Site Name: CITY OF DETROIT-DOT
Received: 03/15/2013
Reported: 04/02/2013
Collected By: RON FRIEND/AARON SNOW

Total: \$1,440.00

Samples Received :

Table with 5 columns: No, Sample ID, Sample Description, Matrix, Collection Date. Contains 8 rows of sample data including Field Blank 1, SGP-1 through SGP-5, Field Blank 2, and Dup-1.

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

George L. Krisztian,
Laboratory Director



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13040 **Field Blank 1**

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/20/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	1.6		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	2.0		1.0
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	2.3		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.6		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.2		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.2		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	2.2		1.0
95-63-6	1,2,4-Trimethylbenzene	4.0	1.4		1.0
106-93-4	1,2-Dibromoethane	Not Detected	2.3		1.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	2.1		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.8		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.2		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.4		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.4		1.0
106-99-0	1,3-Butadiene	Not Detected	0.65		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.8		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.8		1.0
540-84-1	2,2,4-Trimethylpentane	Not Detected	1.4		1.0
126-99-8	2-Chloro-1,3-butadiene	Not Detected	1.1		1.0
75-05-8	Acetonitrile	Not Detected	1.6	5	1.0
107-13-1	Acrylonitrile	Not Detected	1.1		1.0
71-43-2	Benzene	1.2	0.94		1.0
100-44-7	Benzyl chloride	Not Detected	1.5	J	1.0
75-27-4	Bromodichloromethane	Not Detected	2.0		1.0
75-25-2	Bromoform	Not Detected	3.0		1.0
74-83-9	Bromomethane	Not Detected	1.1		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.9		1.0
108-90-7	Chlorobenzene	Not Detected	1.4		1.0
75-00-3	Chloroethane	Not Detected	0.78		1.0
67-66-3	Chloroform	Not Detected	1.4		1.0
74-87-3	Chloromethane	0.79	0.61		1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.3		1.0
124-48-1	Dibromochloromethane	Not Detected	2.5		1.0
75-71-8	Dichlorodifluoromethane	1.7	1.5		1.0
100-41-4	Ethylbenzene	1.7	1.3		1.0
87-68-3	Hexachloro-1,3-butadiene	Not Detected	3.1		1.0
110-54-3	Hexane	Not Detected	3.5		1.0
108383,106423	m & p - Xylene	6.5	1.3		1.0
78-93-3	Methyl ethyl ketone	Not Detected	14	5	1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13040 Field Blank 1

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/20/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	4.0		1.0
75-09-2	Methylene chloride	Not Detected	1.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.8	5	1.0
95-47-6	o-Xylene	2.6	1.3		1.0
100-42-5	Styrene	Not Detected	1.3		1.0
127-18-4	Tetrachloroethylene	Not Detected	2.0		1.0
108-88-3	Toluene	10	1.1		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.3		1.0
79-01-6	Trichloroethylene	Not Detected	1.6		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.7		1.0
75-01-4	Vinyl chloride	Not Detected	0.75		1.0

Ambient Temperature	22.5	Degrees C	03/20/2013	PCR
Barometric Pressure	740.6	mm Hg	03/20/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC13041 SGP-1

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/25/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	16		10
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	20		10
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	22		10
79-00-5	1,1,2-Trichloroethane	Not Detected	16		10
75-34-3	1,1-Dichloroethane	Not Detected	12		10
75-35-4	1,1-Dichloroethylene	Not Detected	12		10
120-82-1	1,2,4-Trichlorobenzene	Not Detected	22		10
95-63-6	1,2,4-Trimethylbenzene	Not Detected	14		10
106-93-4	1,2-Dibromoethane	Not Detected	23		10
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	21		10
95-50-1	1,2-Dichlorobenzene	Not Detected	18		10
107-06-2	1,2-Dichloroethane	Not Detected	12		10
78-87-5	1,2-Dichloropropane	Not Detected	14		10
108-67-8	1,3,5-Trimethylbenzene	Not Detected	14		10
106-99-0	1,3-Butadiene	Not Detected	6.5		10
541-73-1	1,3-Dichlorobenzene	Not Detected	18		10
106-46-7	1,4-Dichlorobenzene	Not Detected	18		10
540-84-1	2,2,4-Trimethylpentane	230	14		10
126-99-8	2-Chloro-1,3-butadiene	Not Detected	11		10
75-05-8	Acetonitrile	Not Detected	16		10
107-13-1	Acrylonitrile	Not Detected	11		10
71-43-2	Benzene	Not Detected	9.4		10
100-44-7	Benzyl chloride	Not Detected	15	J	10
75-27-4	Bromodichloromethane	Not Detected	20		10
75-25-2	Bromoform	Not Detected	30		10
74-83-9	Bromomethane	Not Detected	11		10
56-23-5	Carbon tetrachloride	Not Detected	18		10
108-90-7	Chlorobenzene	Not Detected	14		10
75-00-3	Chloroethane	Not Detected	7.7		10
67-66-3	Chloroform	Not Detected	14		10
74-87-3	Chloromethane	Not Detected	6.1		10
156-59-2	cis-1,2-Dichloroethylene	Not Detected	12		10
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	13		10
124-48-1	Dibromochloromethane	Not Detected	25		10
75-71-8	Dichlorodifluoromethane	Not Detected	15		10
100-41-4	Ethylbenzene	Not Detected	13		10
87-68-3	Hexachloro-1,3-butadiene	Not Detected	31		10
110-54-3	Hexane	Not Detected	34		10
108383,106423	m & p - Xylene	Not Detected	13		10
78-93-3	Methyl ethyl ketone	Not Detected	140		10

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts

Inorganic Unit Mgr: Kirby Shane

Organic Unit Mgr: Carol Smith

Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13041 SGP-1

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/25/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	40		10
75-09-2	Methylene chloride	Not Detected	10		10
1634-04-4	Methyltertiarybutylether	Not Detected	18		10
95-47-6	o-Xylene	Not Detected	13		10
100-42-5	Styrene	Not Detected	12		10
127-18-4	Tetrachloroethylene	Not Detected	20		10
108-88-3	Toluene	12	11		10
156-60-5	trans-1,2-Dichloroethylene	Not Detected	12		10
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	13		10
79-01-6	Trichloroethylene	Not Detected	16		10
75-69-4	Trichlorofluoromethane	Not Detected	16		10
75-01-4	Vinyl chloride	Not Detected	7.5		10

RLs raised due to matrix interference.

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/25/2013	PCR
Barometric Pressure	737.7	mm Hg	03/25/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13042 SGP-4

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	1.6		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	2.0		1.0
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	2.3		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.6		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.2		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.2		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	2.2		1.0
95-63-6	1,2,4-Trimethylbenzene	2.2	1.5		1.0
106-93-4	1,2-Dibromoethane	Not Detected	2.3		1.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	2.1		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.8		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.2		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.4		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.5		1.0
106-99-0	1,3-Butadiene	Not Detected	0.66		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.8		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.8		1.0
540-84-1	2,2,4-Trimethylpentane	5.8	1.4	6	1.0
126-99-8	2-Chloro-1,3-butadiene	Not Detected	1.1		1.0
75-05-8	Acetonitrile	Not Detected	1.7	5	1.0
107-13-1	Acrylonitrile	Not Detected	1.1		1.0
71-43-2	Benzene	Not Detected	0.95		1.0
100-44-7	Benzyl chloride	Not Detected	1.5	J	1.0
75-27-4	Bromodichloromethane	Not Detected	2.0		1.0
75-25-2	Bromoform	Not Detected	3.1		1.0
74-83-9	Bromomethane	Not Detected	1.2		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.9		1.0
108-90-7	Chlorobenzene	Not Detected	1.4		1.0
75-00-3	Chloroethane	Not Detected	0.78		1.0
67-66-3	Chloroform	Not Detected	1.4		1.0
74-87-3	Chloromethane	Not Detected	0.61	5	1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.3		1.0
124-48-1	Dibromochloromethane	Not Detected	2.5		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	1.5		1.0
100-41-4	Ethylbenzene	1.4	1.3		1.0
87-68-3	Hexachloro-1,3-butadiene	Not Detected	3.2		1.0
110-54-3	Hexane	Not Detected	3.5		1.0
108383,106423	m & p - Xylene	5.9	1.3		1.0
78-93-3	Methyl ethyl ketone	Not Detected	15	5	1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13042 SGP-4

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	4.0		1.0
75-09-2	Methylene chloride	Not Detected	1.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.8	5	1.0
95-47-6	o-Xylene	2.5	1.3		1.0
100-42-5	Styrene	Not Detected	1.3		1.0
127-18-4	Tetrachloroethylene	Not Detected	2.0		1.0
108-88-3	Toluene	7.9	1.1		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.3		1.0
79-01-6	Trichloroethylene	Not Detected	1.6		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.7		1.0
75-01-4	Vinyl chloride	Not Detected	0.76		1.0

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/26/2013	PCR
Barometric Pressure	744.9	mm Hg	03/26/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC13043 SGP-5

Volatile Compounds in air

Analytical Method: TO-15 Modified

Date Tested: 03/27/2013

Analyst: PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	1.6		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	2.0		1.0
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	2.3		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.6		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.2		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.2		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	2.2		1.0
95-63-6	1,2,4-Trimethylbenzene	6.5	1.5		1.0
106-93-4	1,2-Dibromoethane	Not Detected	2.3		1.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	2.1		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.8		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.2		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.4		1.0
108-67-8	1,3,5-Trimethylbenzene	2.6	1.5		1.0
106-99-0	1,3-Butadiene	Not Detected	0.66		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.8		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.8		1.0
540-84-1	2,2,4-Trimethylpentane	3.5	1.4	6	1.0
126-99-8	2-Chloro-1,3-butadiene	Not Detected	1.1		1.0
75-05-8	Acetonitrile	Not Detected	1.7	5	1.0
107-13-1	Acrylonitrile	Not Detected	1.1		1.0
71-43-2	Benzene	Not Detected	0.95		1.0
100-44-7	Benzyl chloride	Not Detected	1.5	J	1.0
75-27-4	Bromodichloromethane	Not Detected	2.0		1.0
75-25-2	Bromoform	Not Detected	3.1		1.0
74-83-9	Bromomethane	Not Detected	1.2		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.9		1.0
108-90-7	Chlorobenzene	Not Detected	1.4		1.0
75-00-3	Chloroethane	Not Detected	0.78		1.0
67-66-3	Chloroform	4.4	1.4		1.0
74-87-3	Chloromethane	Not Detected	0.61	5	1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.3		1.0
124-48-1	Dibromochloromethane	Not Detected	2.5		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	1.5		1.0
100-41-4	Ethylbenzene	1.6	1.3		1.0
87-68-3	Hexachloro-1,3-butadiene	Not Detected	3.2		1.0
110-54-3	Hexane	Not Detected	3.5		1.0
108383,106423	m & p - Xylene	13	1.3		1.0
78-93-3	Methyl ethyl ketone	Not Detected	15	5	1.0

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts

Inorganic Unit Mgr: Kirby Shane

Organic Unit Mgr: Carol Smith

Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13043 SGP-5

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	4.0		1.0
75-09-2	Methylene chloride	Not Detected	1.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.8	5	1.0
95-47-6	o-Xylene	6.3	1.3		1.0
100-42-5	Styrene	Not Detected	1.3		1.0
127-18-4	Tetrachloroethylene	Not Detected	2.0		1.0
108-88-3	Toluene	8.1	1.1		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.3		1.0
79-01-6	Trichloroethylene	2.2	1.6		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.7		1.0
75-01-4	Vinyl chloride	Not Detected	0.76		1.0

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/26/2013	PCR
Barometric Pressure	744.9	mm Hg	03/26/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC13044 SGP-3

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	1.6		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	2.0		1.0
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	2.3		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.6		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.2		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.2		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	2.2		1.0
95-63-6	1,2,4-Trimethylbenzene	5.7	1.5		1.0
106-93-4	1,2-Dibromoethane	Not Detected	2.3		1.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	2.1		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.8		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.2		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.4		1.0
108-67-8	1,3,5-Trimethylbenzene	2.2	1.5		1.0
106-99-0	1,3-Butadiene	Not Detected	0.66		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.8		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.8		1.0
540-84-1	2,2,4-Trimethylpentane	3.3	1.4	6	1.0
126-99-8	2-Chloro-1,3-butadiene	Not Detected	1.1		1.0
75-05-8	Acetonitrile	Not Detected	1.7	5	1.0
107-13-1	Acrylonitrile	Not Detected	1.1		1.0
71-43-2	Benzene	3.8	0.95		1.0
100-44-7	Benzyl chloride	Not Detected	1.5	J	1.0
75-27-4	Bromodichloromethane	6.0	2.0		1.0
75-25-2	Bromoform	Not Detected	3.1		1.0
74-83-9	Bromomethane	Not Detected	1.2		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.9		1.0
108-90-7	Chlorobenzene	Not Detected	1.4		1.0
75-00-3	Chloroethane	Not Detected	0.78		1.0
67-66-3	Chloroform	27	1.4		1.0
74-87-3	Chloromethane	0.83	0.61	5	1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.3		1.0
124-48-1	Dibromochloromethane	Not Detected	2.5		1.0
75-71-8	Dichlorodifluoromethane	1.7	1.5		1.0
100-41-4	Ethylbenzene	3.5	1.3		1.0
87-68-3	Hexachloro-1,3-butadiene	Not Detected	3.2		1.0
110-54-3	Hexane	Not Detected	3.5		1.0
108383,106423	m & p - Xylene	12	1.3		1.0
78-93-3	Methyl ethyl ketone	Not Detected	15	5	1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Kirby Shane
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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 ENVIRONMENTAL LABORATORY

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 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13044 SGP-3

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	4.0		1.0
75-09-2	Methylene chloride	Not Detected	1.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.8	5	1.0
95-47-6	o-Xylene	4.7	1.3		1.0
100-42-5	Styrene	Not Detected	1.3		1.0
127-18-4	Tetrachloroethylene	Not Detected	2.0		1.0
108-88-3	Toluene	42	1.1		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.3		1.0
79-01-6	Trichloroethylene	Not Detected	1.6		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.7		1.0
75-01-4	Vinyl chloride	Not Detected	0.76		1.0

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/26/2013	PCR
Barometric Pressure	744.9	mm Hg	03/26/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC13045 SGP-2

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/25/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	16		10
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	20		10
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	22		10
79-00-5	1,1,2-Trichloroethane	Not Detected	16		10
75-34-3	1,1-Dichloroethane	Not Detected	12		10
75-35-4	1,1-Dichloroethylene	Not Detected	12		10
120-82-1	1,2,4-Trichlorobenzene	Not Detected	22		10
95-63-6	1,2,4-Trimethylbenzene	1200	14		10
106-93-4	1,2-Dibromoethane	Not Detected	23		10
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	21		10
95-50-1	1,2-Dichlorobenzene	Not Detected	18		10
107-06-2	1,2-Dichloroethane	Not Detected	12		10
78-87-5	1,2-Dichloropropane	Not Detected	14		10
108-67-8	1,3,5-Trimethylbenzene	650	14		10
106-99-0	1,3-Butadiene	Not Detected	6.5		10
541-73-1	1,3-Dichlorobenzene	Not Detected	18		10
106-46-7	1,4-Dichlorobenzene	Not Detected	18		10
540-84-1	2,2,4-Trimethylpentane	25000	690		500
126-99-8	2-Chloro-1,3-butadiene	Not Detected	11		10
75-05-8	Acetonitrile	63	16		10
107-13-1	Acrylonitrile	Not Detected	11		10
71-43-2	Benzene	2200	9.4		10
100-44-7	Benzyl chloride	Not Detected	15	J	10
75-27-4	Bromodichloromethane	Not Detected	20		10
75-25-2	Bromoform	Not Detected	30		10
74-83-9	Bromomethane	Not Detected	11		10
56-23-5	Carbon tetrachloride	Not Detected	18		10
108-90-7	Chlorobenzene	Not Detected	14		10
75-00-3	Chloroethane	Not Detected	7.7		10
67-66-3	Chloroform	Not Detected	14		10
74-87-3	Chloromethane	Not Detected	6.1		10
156-59-2	cis-1,2-Dichloroethylene	Not Detected	12		10
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	13		10
124-48-1	Dibromochloromethane	Not Detected	25		10
75-71-8	Dichlorodifluoromethane	Not Detected	15		10
100-41-4	Ethylbenzene	2900	13		10
87-68-3	Hexachloro-1,3-butadiene	Not Detected	31		10
110-54-3	Hexane	18000	1700		500
108383,106423	m & p - Xylene	10000	640		500
78-93-3	Methyl ethyl ketone	Not Detected	140		10

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts

Inorganic Unit Mgr: Kirby Shane

Organic Unit Mgr: Carol Smith

Systems Mgmt Unit: George Krisztian



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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13045 SGP-2

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/25/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	40		10
75-09-2	Methylene chloride	Not Detected	10		10
1634-04-4	Methyltertiarybutylether	Not Detected	18		10
95-47-6	o-Xylene	2700	13		10
100-42-5	Styrene	Not Detected	12		10
127-18-4	Tetrachloroethylene	Not Detected	20		10
108-88-3	Toluene	3400	11		10
156-60-5	trans-1,2-Dichloroethylene	Not Detected	12		10
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	13		10
79-01-6	Trichloroethylene	Not Detected	16		10
75-69-4	Trichlorofluoromethane	Not Detected	16		10
75-01-4	Vinyl chloride	Not Detected	7.5		10

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/25/2013	PCR
Barometric Pressure	737.7	mm Hg	03/25/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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 Organic Unit Mgr: Carol Smith
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AC13046 **Field Blank 2**

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/26/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	16		10
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	20		10
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	22		10
79-00-5	1,1,2-Trichloroethane	Not Detected	16		10
75-34-3	1,1-Dichloroethane	Not Detected	12		10
75-35-4	1,1-Dichloroethylene	Not Detected	12		10
120-82-1	1,2,4-Trichlorobenzene	Not Detected	22		10
95-63-6	1,2,4-Trimethylbenzene	570	14		10
106-93-4	1,2-Dibromoethane	Not Detected	23		10
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	21		10
95-50-1	1,2-Dichlorobenzene	Not Detected	18		10
107-06-2	1,2-Dichloroethane	Not Detected	12		10
78-87-5	1,2-Dichloropropane	Not Detected	14		10
108-67-8	1,3,5-Trimethylbenzene	260	14		10
106-99-0	1,3-Butadiene	Not Detected	6.5		10
541-73-1	1,3-Dichlorobenzene	Not Detected	18		10
106-46-7	1,4-Dichlorobenzene	Not Detected	18		10
540-84-1	2,2,4-Trimethylpentane	680	14		10
126-99-8	2-Chloro-1,3-butadiene	Not Detected	11		10
75-05-8	Acetonitrile	Not Detected	16		10
107-13-1	Acrylonitrile	Not Detected	11		10
71-43-2	Benzene	99	9.4		10
100-44-7	Benzyl chloride	Not Detected	15	J	10
75-27-4	Bromodichloromethane	Not Detected	20		10
75-25-2	Bromoform	Not Detected	30		10
74-83-9	Bromomethane	Not Detected	11		10
56-23-5	Carbon tetrachloride	Not Detected	18		10
108-90-7	Chlorobenzene	Not Detected	14		10
75-00-3	Chloroethane	Not Detected	7.7		10
67-66-3	Chloroform	Not Detected	14		10
74-87-3	Chloromethane	Not Detected	6.1		10
156-59-2	cis-1,2-Dichloroethylene	Not Detected	12		10
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	13		10
124-48-1	Dibromochloromethane	Not Detected	25		10
75-71-8	Dichlorodifluoromethane	Not Detected	15		10
100-41-4	Ethylbenzene	680	13		10
87-68-3	Hexachloro-1,3-butadiene	Not Detected	31		10
110-54-3	Hexane	320	34		10
108383,106423	m & p - Xylene	1800	13		10
78-93-3	Methyl ethyl ketone	Not Detected	140		10

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
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Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian



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 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13046 **Field Blank 2**

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/26/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	40		10
75-09-2	Methylene chloride	Not Detected	10		10
1634-04-4	Methyltertiarybutylether	Not Detected	18		10
95-47-6	o-Xylene	600	13		10
100-42-5	Styrene	Not Detected	12		10
127-18-4	Tetrachloroethylene	Not Detected	20		10
108-88-3	Toluene	700	11		10
156-60-5	trans-1,2-Dichloroethylene	Not Detected	12		10
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	13		10
79-01-6	Trichloroethylene	Not Detected	16		10
75-69-4	Trichlorofluoromethane	Not Detected	16		10
75-01-4	Vinyl chloride	Not Detected	7.5		10

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/25/2013	PCR
Barometric Pressure	737.7	mm Hg	03/25/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



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P.O. Box 30270
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 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13047 Dup-1

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
71-55-6	1,1,1-Trichloroethane	Not Detected	1.6		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	2.0		1.0
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Not Detected	2.3		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.6		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.2		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.2		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	2.2		1.0
95-63-6	1,2,4-Trimethylbenzene	12	1.5		1.0
106-93-4	1,2-Dibromoethane	Not Detected	2.3		1.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	Not Detected	2.1		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.8		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.2		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.4		1.0
108-67-8	1,3,5-Trimethylbenzene	6.1	1.5		1.0
106-99-0	1,3-Butadiene	Not Detected	0.66		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.8		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.8		1.0
540-84-1	2,2,4-Trimethylpentane	240	1.4	6	1.0
126-99-8	2-Chloro-1,3-butadiene	Not Detected	1.1		1.0
75-05-8	Acetonitrile	Not Detected	1.7	5	1.0
107-13-1	Acrylonitrile	Not Detected	1.1		1.0
71-43-2	Benzene	3.2	0.95		1.0
100-44-7	Benzyl chloride	Not Detected	1.5	J	1.0
75-27-4	Bromodichloromethane	Not Detected	2.0		1.0
75-25-2	Bromoform	Not Detected	3.1		1.0
74-83-9	Bromomethane	Not Detected	1.2		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.9		1.0
108-90-7	Chlorobenzene	Not Detected	1.4		1.0
75-00-3	Chloroethane	Not Detected	0.78		1.0
67-66-3	Chloroform	Not Detected	1.4		1.0
74-87-3	Chloromethane	0.80	0.61	5	1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.3		1.0
124-48-1	Dibromochloromethane	Not Detected	2.5		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	1.5		1.0
100-41-4	Ethylbenzene	9.0	1.3		1.0
87-68-3	Hexachloro-1,3-butadiene	Not Detected	3.2		1.0
110-54-3	Hexane	51	3.5		1.0
108383,106423	m & p - Xylene	56	1.3		1.0
78-93-3	Methyl ethyl ketone	Not Detected	15	5	1.0

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
 Inorganic Unit Mgr: Kirby Shane
 Organic Unit Mgr: Carol Smith
 Systems Mgmt Unit: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Sample Number: AC13047 Dup-1

Volatile Compounds in air

Analytical Method: TO-15 Modified **Date Tested:** 03/27/2013 **Analyst:** PCR

CAS #	Compound	Result ug/m3	RL	Qualifier	Dilution Factor
108-10-1	Methyl isobutyl ketone	Not Detected	4.0		1.0
75-09-2	Methylene chloride	Not Detected	1.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.8	5	1.0
95-47-6	o-Xylene	20	1.3		1.0
100-42-5	Styrene	Not Detected	1.3		1.0
127-18-4	Tetrachloroethylene	Not Detected	2.0		1.0
108-88-3	Toluene	31	1.1		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.2		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.3		1.0
79-01-6	Trichloroethylene	Not Detected	1.6		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.7		1.0
75-01-4	Vinyl chloride	Not Detected	0.76		1.0

Unidentified peaks present in sample.

Ambient Temperature	22.5	Degrees C	03/26/2013	PCR
Barometric Pressure	744.9	mm Hg	03/26/2013	PCR

CAS# : Chemical Abstract Service Registry Number
 RL : Reporting Limit
 ND : Not Detected

ug / L : microgram / liter (ppb)
 mg / L : milligram / liter (ppm)
 ug / Kg : microgram / kilogram (ppb)
 mg / Kg : milligram / kilogram (ppm)

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Lansing, MI 48909
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FAX: (517) 335-9600

<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

CAS# : Chemical Abstract Service Registry Number

RL : Reporting Limit

ND : Not Detected

ug / L : microgram / liter (ppb)

mg / L : milligram / liter (ppm)

ug / Kg : microgram / kilogram (ppb)

mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts

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Systems Mgmt Unit: George Krisztian



*Excellence Delivered **As Promised***

December 23, 2013

File # 54910.001

Mr. Josh Scheels
Michigan Department of Environmental Quality
Remediation & Redevelopment Division
Southeast Michigan District Office
27700 Donald Court
Warren, Michigan 48092

Re: *Sub-Slab Soil Vapor Assessment*
Terminal Building, DDOT Schaefer Hwy Bus Depot

Dear Mr. Scheels,

Gannett Fleming of Michigan, Inc. (Gannett Fleming) was authorized by the Michigan Department of Environmental Quality – Remediation & Redevelopment Division (MDEQ-RRD) to complete sub-slab soil vapor probe installation and sampling in the Terminal Building at the City of Detroit-DOT property, 14044 Schaefer Highway, Detroit, Wayne County, Michigan (Figure 1). This Technical Memorandum provides a description of the investigation activities conducted in November 2013 under this authorization, and presents the results of these activities and our recommendations for additional work.

Sub-Slab Probe Installation and Sampling

On November 25, 2013, Gannett Fleming installed six sub-slab soil vapor probes in the basement of the Terminal Building, located at the northwest corner of the site. The samples were to be collected from the floor of a basement sub-level located under the southeast corner of the Terminal Building (Figure 2). The purpose of the investigation was to determine whether residual contaminants in soil or groundwater under the building could pose an indoor air inhalation risk to users of the building.

The sub-slab sampling was conducted in general accordance with the MDEQ's *Guidance Document for the Vapor Intrusion Pathway*, May 2013, and Gannett Fleming's Work Plan Letter, submitted to the MDEQ on October 10, 2013, and approved the same day

Gannett Fleming of Michigan, Inc.

Plymouth Oaks Business Center II • Suite 102 • 44099 Plymouth Oaks Blvd. • Plymouth, MI 48170

t: 734.459.6955 • f: 734.459.6720

www.gannettfleming.com

December 23, 2013

Mr. Josh Scheels

Page 2 of 4

The locations for the sub-slab sampling points were selected during a site visit on November 15, 2013, and marked for later installation using orange utility marking spray paint. On November 25, 2013, six vapor sampling points were installed directly into the concrete slab of the basement floor. Borings were drilled through the floor using a hand held rotary hammer drill with a 1.5 inch and 5/8 inch diameter drill bit. First, the 1.5 inch borehole was drilled about 1.75 inches into the concrete slab, then the 5/8 inch borehole was installed through the initial boring and through the concrete slab. The 5/8 inch bit was allowed to penetrate approximately 1 to 2 inches below the concrete into the sub-slab to create a void. A Vapor Pin®, developed by Cox and Colvin, was then pushed into the borehole, and a protective cover threaded onto the vapor pin until sampling could be completed. The vapor pin fits tightly into the boring and provides an air-tight seal so that vapors can only pass through the pin, and not the annulus of the drilled borehole.

Gannett Fleming returned to the site on November 26, 2013, to collect the sub-slab soil vapor samples. However, on inspection of the points, it became apparent that water directly beneath the basement slab was under pressure, and this water rose up into several of the sampling pins, preventing collection of vapor samples. Five points, SGP-1, 2, 3, 5 and 6 could not be sampled for sub-slab soil vapors due to the presence of water in the sampling points. In some sample points, water was under sufficient pressure that it exited through the pins and flowed onto the basement floor. Only one of the soil vapor probes, SGP-4, was not full of water. The locations of the sampling points are depicted on Figure 3.

Gannett Fleming attempted to collect a sample at SGP-4. Prior to sampling, three volumes of air were purged from the vapor pins using a 30cc syringe connected to a three-way valve. A valve and tubing/regulator system was affixed to the pin and connected to a pass through valve on a plastic "dome" that was sealed to the floor and filled with helium. The helium was inserted into the dome through a separate valve mechanism. The helium is used as a tracer compound to ensure there are no leaks in the sampling train. If no helium is detected in the sampling train during the pre-sampling test, the tracer apparatus is removed and the sampling train connected to the sampling vacuum bottle.

A laboratory supplied amber glass vacuum bottle equipped with a pressure gauge and regulator was used as the sample collection vessel. The sample train was connected directly to the vacuum bottle using a quick connector. When the valve on the regulator was opened to the vacuum bottle, the initial negative pressure (vacuum) on the

December 23, 2013

Mr. Josh Scheels

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pressure gauge read 29 inches of mercury. After about 30 minutes, the pressure had not changed, indicating that the porosity of the sub-slab materials was insufficient to allow vapors to move from the sub-slab into the vacuum bottle under the 29 inches of mercury vacuum. This low porosity is most likely due to the presence of tight clay immediately below the concrete, or water filling the soil pores immediately beneath the concrete slab, causing a “hydraulic block” to gas movement.

Because no sub-slab samples could be collected, it was decided to collect an ambient air sample adjacent to the basement sump. The ambient air sample was delivered to the MDEQ Laboratory in Lansing, Michigan (MDEQ Laboratory) following Gannett Fleming’s chain-of-custody protocol and analyzed for volatile organic compounds (VOCs) using USEPA Method TO-15, modified.

Sub-Slab Soil Vapor Sampling Results

The ambient air sampling results were compared to Non-Residential (Chronic) Indoor Air Screening Values, summarized in Appendix D.2 (Draft) of the MDEQ’s *Guidance Document for the Vapor Intrusion Pathway*, May 2013. Various petroleum-related VOCs were detected above laboratory detection limits in the ambient air sample; however none exceeded the applicable draft criteria. Analytical results are summarized in Table 1 and the original laboratory report is included in Attachment A.

Water Sampling

During the November 15, 2013, site visit, a dark viscous material appearing like weathered oil was observed floating on the surface of the water contained in the sump of the basement. A water sample was collected from the basement sump below the dark material to evaluate whether it contained petroleum hydrocarbons. Prior to sampling the sump water, an oil water interface probe was used to measure the thickness of the dark layer of material on the surface of the sump water. The material was approximately 0.02 inches thick. A peristaltic pump was used to collect a grab sample of the sump water from several inches below the water interface with the oil-like material. The water sample was placed directly into laboratory supplied sample containers and submitted to the MDEQ Laboratory. The water sample was analyzed for VOCs by USEPA Solid Waste SW-846 Method 8260. A copy of the laboratory report is included in Attachment A.

Only one compound was detected above the laboratory detection limit in the water sample collected from the basement sump. The water sample contained 1,2,4-

December 23, 2013

Mr. Josh Scheels

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trimethylbenzene at a concentration of 1.1 µg/L. No other compounds were detected above the laboratory detection limit and no compounds were detected above any applicable RBSL.

Conclusions

Due to tight clays and the presence of water directly beneath the concrete slab of the basement, no sub-slab soil vapor samples were able to be collected from the Terminal Building. One ambient air sample and one water sample from the sump were collected in the basement of the Terminal Building in lieu of sub-slab vapor samples. Both samples contained VOCs at low concentrations below any applicable RBSLs. The subgrade lithology of clay and the presence of a saturated soil zone below the slab would make it unlikely for sub-slab vapors to penetrate and migrate into the basement floor of the Terminal Building. The footer sub-drain and the sump, however could pose an entry point if the footer area came into contact with contaminants.

Based on the analytical data collected and field observations at the site, Gannett Fleming recommends that no further action is necessary for investigating whether residual contaminants in soil or groundwater pose a continuing indoor air inhalation risk to users of the building.

Please contact me at (734) 459-6955 if you have any questions or require additional information.

Sincerely,

GANNETT FLEMING OF MICHIGAN, INC.

A handwritten signature in blue ink, appearing to read "Craig A. Savage".

Craig A. Savage, CPG.
Senior Project Manager

Enclosure

TABLE

**MDEQ - RRD
DETROIT DOT
SCHAEFER HWY BUS GARAGE**

**TABLE 1
INDOOR AIR ANALYTICAL RESULTS**

Sample ID	Non-Residential Vapor Intrusion Indoor Air Screening Levels	Ambient Air	
Date Collected		11/26/2013	
VOLATILE ORGANIC COMPOUNDS (VOCs)			
Date Analyzed		12/3/2013	
Analytical Method No.		TO-15 Modified	
Collection Method		GS	
TARGET COMPOUNDS (ug/m³)		Conc.	RL
Benzene	1.6E+01	0.85	0.95
Chloromethane	2.1E+02	0.87	0.61
Dichlorodifluoromethane	2.2E+05	2.1	1.5
m & p - Xylene	NPC	1.4	1.3
Toluene	2.2E+04	2.3	1.1

NOTES:

Only detected analytes shown, see lab report for full analyte list.

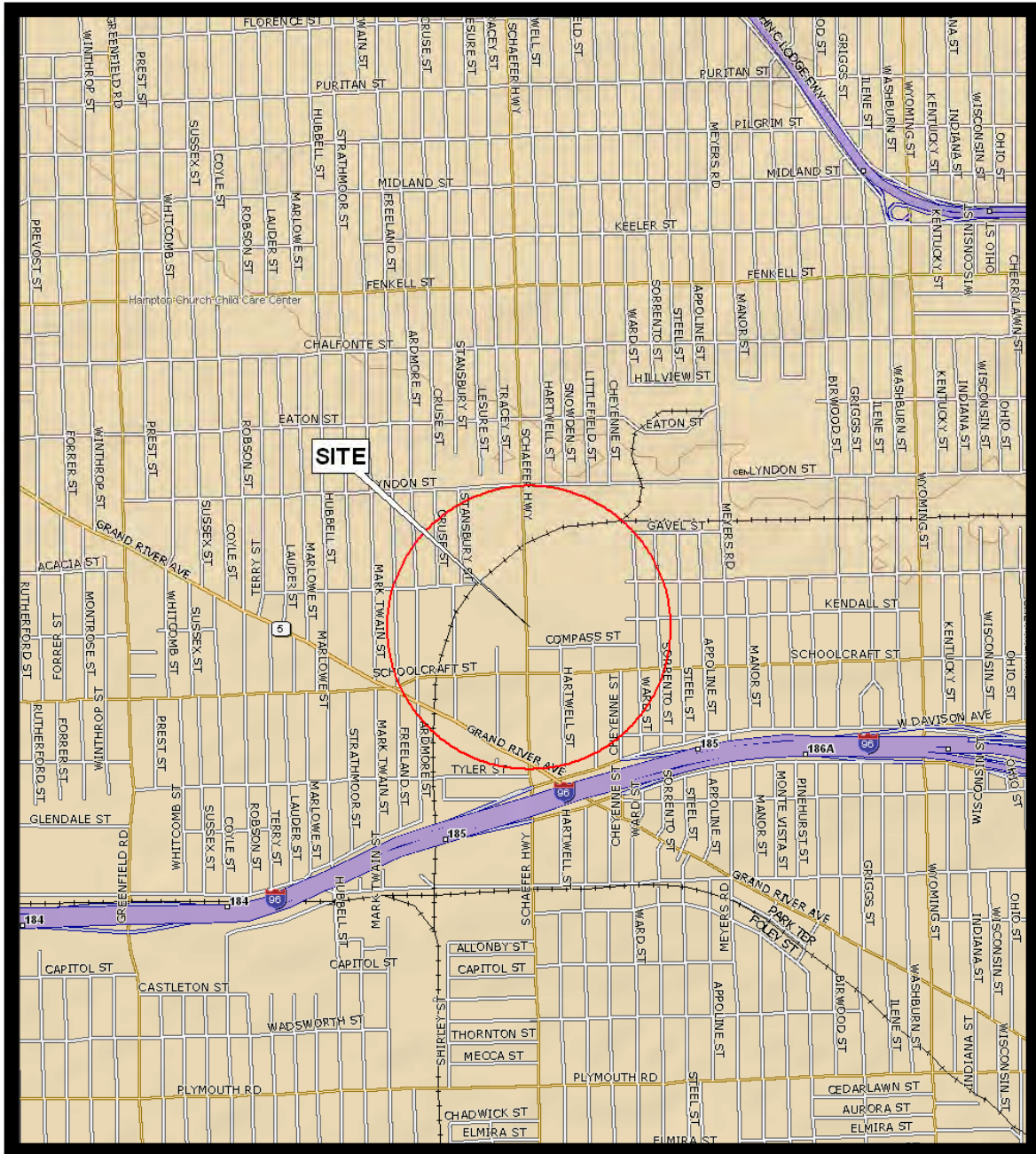
ug/m³ = micrograms per cubic meter

GS = Grab Sample

RL = Reporting Limit

Bolded = Indicates concentration exceeds laboratory method detection limit.

FIGURES



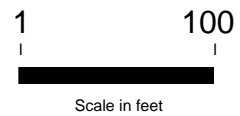
SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN



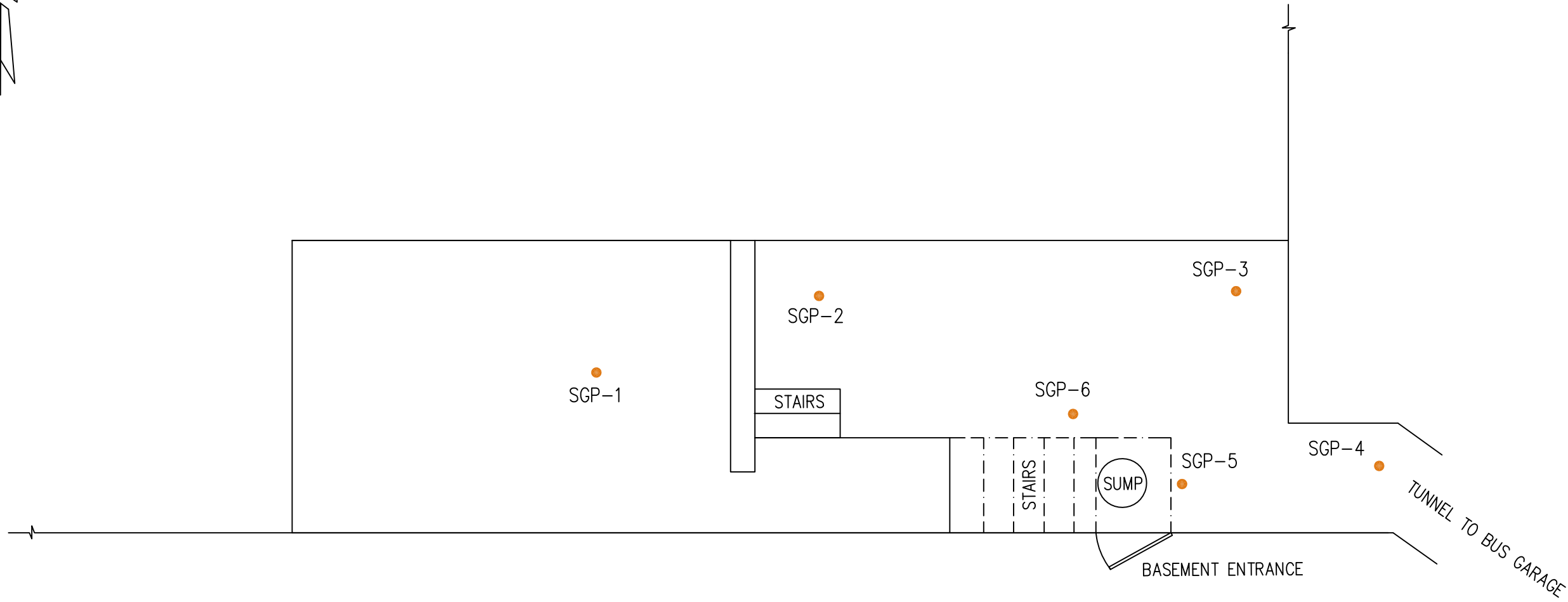
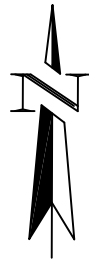
SITE LOCATION MAP
MDEQ-RD
CITY OF DETROIT – 14044 SCHAEFER
DETROIT, MICHIGAN





AERIAL VICINITY MAP

MDEQ-RRD
CITY OF DETROIT – 14044 SCHAEFER
DETROIT, MICHIGAN



LEGEND

● SGP-5 *Soil Gas Probe Locations*



**SOIL GAS PROBE
LOCATIONS**
MDEQ-RRD
CITY OF DETROIT (DDOT)
DETROIT, MICHIGAN

ATTACHMENT



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

10 December 2013

Work Order: 1311216

Price: \$180.00

Josh Scheels

MDEQ-RRD-SE MICHIGAN

27700 Donald Court

Warren, MI 48092

RE: CITY OF DETROIT-DOT14044 SCHAEFER

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

George Krisztian
Laboratory Director



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

MDEQ-RRD-SE MICHIGAN
27700 Donald Court
Warren MI, 48092

Project: CITY OF DETROIT-DOT14044 SCHAEFER
Site Code: 82002470
Project Manager: Josh Scheels

Reported:
12/10/2013

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
AMBIENT	1311216-01	Air	11/26/2013	11/27/2013	

Notes and Definitions

- Y11 Unidentified peaks present in sample.
- T Reported value is less than the reporting limit (RL). Result is estimated.
- ND Indicates compound analyzed for but not detected
- RL Reporting Limit
- NA Not Applicable



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 ENVIRONMENTAL LABORATORY

P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
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Client ID: AMBIENT
 Lab ID: 1311216-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
									See note Y11
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/m3	1	12/03/13	B3L0317	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/m3	1	12/03/13	B3L0317	TO-15	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.3	ug/m3	1	12/03/13	B3L0317	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.6	ug/m3	1	12/03/13	B3L0317	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	12/03/13	B3L0317	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	12/03/13	B3L0317	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	ug/m3	1	12/03/13	B3L0317	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	12/03/13	B3L0317	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	12/03/13	B3L0317	TO-15	
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	ND	2.1	ug/m3	1	12/03/13	B3L0317	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	12/03/13	B3L0317	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	12/03/13	B3L0317	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	12/03/13	B3L0317	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	12/03/13	B3L0317	TO-15	
106-99-0	1,3-Butadiene	ND	0.65	ug/m3	1	12/03/13	B3L0317	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	12/03/13	B3L0317	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	12/03/13	B3L0317	TO-15	
540-84-1	2,2,4-Trimethylpentane	ND	1.4	ug/m3	1	12/03/13	B3L0317	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	12/03/13	B3L0317	TO-15	
126-99-8	2-Chloro-1,3-butadiene	ND	1.1	ug/m3	1	12/03/13	B3L0317	TO-15	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.0	ug/m3	1	12/03/13	B3L0317	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	12/03/13	B3L0317	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	12/03/13	B3L0317	TO-15	
71-43-2	Benzene	0.85	0.95	ug/m3	1	12/03/13	B3L0317	TO-15	T
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	12/03/13	B3L0317	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	12/03/13	B3L0317	TO-15	
74-83-9	Bromomethane	ND	1.1	ug/m3	1	12/03/13	B3L0317	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	12/03/13	B3L0317	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	12/03/13	B3L0317	TO-15	
75-00-3	Chloroethane	ND	0.78	ug/m3	1	12/03/13	B3L0317	TO-15	
67-66-3	Chloroform	ND	1.4	ug/m3	1	12/03/13	B3L0317	TO-15	
74-87-3	Chloromethane	0.87	0.61	ug/m3	1	12/03/13	B3L0317	TO-15	
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	12/03/13	B3L0317	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
124-48-1	Dibromochloromethane	ND	2.5	ug/m3	1	12/03/13	B3L0317	TO-15	
75-71-8	Dichlorodifluoromethane	2.1	1.5	ug/m3	1	12/03/13	B3L0317	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
87-68-3	Hexachlorobutadiene	ND	3.2	ug/m3	1	12/03/13	B3L0317	TO-15	
110-54-3	Hexane	ND	3.5	ug/m3	1	12/03/13	B3L0317	TO-15	
1330-20-7	m & p - Xylene	1.4	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
75-09-2	Methylene chloride	ND	1.0	ug/m3	1	12/03/13	B3L0317	TO-15	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

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 FAX: (517) 335-9600

Client ID: AMBIENT
 Lab ID: 1311216-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									See note Y11
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	12/03/13	B3L0317	TO-15	
95-47-6	o-Xylene	ND	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
127-18-4	Tetrachloroethylene	ND	2.0	ug/m3	1	12/03/13	B3L0317	TO-15	
108-88-3	Toluene	2.3	1.1	ug/m3	1	12/03/13	B3L0317	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	12/03/13	B3L0317	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.3	ug/m3	1	12/03/13	B3L0317	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	12/03/13	B3L0317	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	12/03/13	B3L0317	TO-15	
75-01-4	Vinyl chloride	ND	0.76	ug/m3	1	12/03/13	B3L0317	TO-15	



Analysis Request Sheet

Lab Work Order Number 131216	Project Name City of Detroit - DOT	Matrix AIR
Site Code/Project Number 82002470	AY 2010	CC Email 1 csavage@gfnet.com
Dept-Division-District SE Michigan	Index 44701	CC Email 2 asnow@gfnet.com
State Project Manager Joshua Scheels	PCA 30822	CC Email 3 rfriend@gfnet.com
State Project Manager Email ScheelsJ@mi.gov	Project U13464	Overflow Lab Choice 1 Trace
State Project Manager Phone 586-753-3766	Phase 00	Overflow Lab Choice 2
		Project TAT Days
		Project Due Date
		Sample Collector Ron Friend
		Sample Collector Phone 734-459-6955
		Contract Firm Gannett Fleming
		Contract Firm Primary Contact Craig Savage
		Primary Contact Phone 734-459-6955
		Accept Analysis hold time codes

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments	Regulator ID	Canister/Bottle Vac Number
1	01 Ambient	11/26/13	1140	1	Ambient Air Sample	129	1345
2							
3							
4							
5							
6							
7							
8							
9							
10							

<p>ORGANIC CHEMISTRY</p> <p>VOA - Volatile Organic Analysis</p> <p>Bottlevac 1 2 3 4 5 6 7 8 9 10</p> <p>Canister - AQD 1 2 3 4 5 6 7 8 9 10</p> <p>Canister - BRD 1 2 3 4 5 6 7 8 9 10</p> <p>Tedlar - Volatiles 1 2 3 4 5 6 7 8 9 10</p> <p>METH - Methane, Ethane, Ethene</p> <p>Methane, Ethane, Ethene 1 2 3 4 5 6 7 8 9 10</p>	<p>Attempted to collect sample with bottle # 1043 and regulator # 114.</p> <p>The pressure was initially at 28, and did not change during a 45 min period of time.</p> <p>DO NOT ANALYZE</p>	<p>5 bottles and regulators were not used.</p>
---	---	--

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org.: Aaron Snow / Gannett Fleming	Fed Ex	11/26/13 1500
	Signature: <i>[Signature]</i>		
	Print Name & Org.: Fed Ex	Joshua Perry MDEQ	11/27/13 1125
	Signature: 7972 5576 4749	<i>[Signature]</i>	
	Print Name & Org.:		
	Signature:		



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

12 December 2013

Work Order: 1311217

Price: \$115.00

Josh Scheels

MDEQ-RRD-SE MICHIGAN

27700 Donald Court

Warren, MI 48092

RE: CITY OF DETROIT-DOT14044 SCHAEFER

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

George Krisztian
Laboratory Director



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

MDEQ-RRD-SE MICHIGAN
27700 Donald Court
Warren MI, 48092

Project: CITY OF DETROIT-DOT14044 SCHAEFER
Site Code: 82002470
Project Manager: Josh Scheels

Reported:
12/12/2013

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
DDOT SUMP	1311217-01	Water	11/26/2013	11/27/2013	

Notes and Definitions

- Y11 Unidentified peaks present in sample.
- X Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
- A11 Result is estimated due to high initial verification standard criteria failure.
- A09 Result is estimated due to high recovery of batch quality control.
- A06 Result is estimated due to high continuing calibration standard criteria failure.
- A05 Result and reporting limit are estimated due to low continuing calibration standard criteria failure.
- ND Indicates compound analyzed for but not detected
- RL Reporting Limit
- NA Not Applicable



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P.O. Box 30270
 Lansing, MI 48909
 TEL: (517) 335-9800
 FAX: (517) 335-9600

Client ID: DDOT SUMP
 Lab ID: 1311217-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
									See note Y11
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
95-63-6	1,2,4-Trimethylbenzene	1.1	1.0	ug/L	1	12/05/13	B3L0501	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	12/05/13	B3L0501	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

**Client ID: DDOT SUMP
Lab ID: 1311217-01**

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
									See note Y11
74-95-3	Dibromomethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	12/05/13	B3L0501	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	A05
75-09-2	Methylene chloride	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	12/05/13	B3L0501	8260	A05
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	12/05/13	B3L0501	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	12/05/13	B3L0501	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>102 %</i>	<i>85-115</i>		<i>12/05/13</i>	<i>B3L0501</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>93.9 %</i>	<i>82.7-115</i>		<i>12/05/13</i>	<i>B3L0501</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>103 %</i>	<i>85-115</i>		<i>12/05/13</i>	<i>B3L0501</i>	<i>8260</i>	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY
 ANALYSIS REQUEST SHEET

White
 Page 1 of 1

LAB WORK ORDER # 1311217		MATRIX=WATER	
SITE CODE NUMBER 82002470		SITE NAME DDOT	
DIVISION RRD		DISTRICT/OFFICE Southeast	
MDEQ PROJECT MANAGER Joshua Scheels		E-MAIL ADDRESS scheelsj@michigan.gov	
PHONE 586-753-3766		ACCEPT HT CODES? Y/N If yes which parameters?	
PRIMARY CONTACT PERSON Craig Savage		CONTRACT FIRM NAME (if applicable) Gannett Fleming	
PHONE 734-459-6955		AY: 2010 INDEX: 44701 PCA: 30822	
PROJECT: U13464 PH: 00		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:	
1ST CHOICE:		1.) csavage@gfnet.com	
2ND CHOICE:		2.) rfriend@gfnet.com	
COLLECTED BY: Ron Friend		PHONE: 734-740-8527	

**** SAFETY INFORMATION REQUIRED ****
 SEE BACK OF FORM

LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED		GPS COORDINATES		COMMENTS
		DATE MM/DD/YY	TIME MILITARY	LATITUDE	LONGITUDE	
1	AC01	DDOT Sump	11-26-13			
2	AC					
3	AC					
4	AC					
5	AC					
6	AC					
7	AC					
8	AC					
9	AC					
10	AC					

ORGANIC		GENERAL CHEMISTRY		INORGANIC	
VOA VOLATILES (8260)	GN NO ₂ , O-Phos	1 2 3 4 5 6 7 8 9 10	MA - Total Metals		
Full List 1 2 3 4 5 6 7 8 9 10	NO ₃ Calc (NO ₂ +NO ₃ , NO ₂)	1 2 3 4 5 6 7 8 9 10	MICH TEN METALS	1 2 3 4 5 6 7 8 9 10	
BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10	Residue SS	1 2 3 4 5 6 7 8 9 10	(As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)		
Chlorinated only 1 2 3 4 5 6 7 8 9 10	Residue TDS	1 2 3 4 5 6 7 8 9 10	OP MEMO 2 METALS	1 2 3 4 5 6 7 8 9 10	
GRO 1 2 3 4 5 6 7 8 9 10	Turbidity	1 2 3 4 5 6 7 8 9 10	(Sb, As, Ba, Be, Cd, Cr, Cu, Co, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, V, Zn)		
L4 Dioxane 1 2 3 4 5 6 7 8 9 10	CA Chlorophyll	1 2 3 4 5 6 7 8 9 10	[Circle Metal and Corresponding Sample No. Below]		
NIETH METHANE, ETHANE, ETHENE (Modified 8015)	GA COD	1 2 3 4 5 6 7 8 9 10	Al Sb As Ba Be B Cd Cr	1 2 3 4 5 6 7 8 9 10	
Methane, ethane, ethene 1 2 3 4 5 6 7 8 9 10	TOC	1 2 3 4 5 6 7 8 9 10	Co Cu Fe Pb Li Mn Hg Mo		
ON PESTICIDES/PCBS (8081/8082)	NO ₃ + NO ₂ , NH ₃	1 2 3 4 5 6 7 8 9 10	Ni Se Ag Sr Ti Tl V Zn	1 2 3 4 5 6 7 8 9 10	
Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10	Ca Mg K Na	1 2 3 4 5 6 7 8 9 10	
Pesticides only 1 2 3 4 5 6 7 8 9 10	GB Total CN	1 2 3 4 5 6 7 8 9 10	Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10	
PCBs only 1 2 3 4 5 6 7 8 9 10	Amenable CN	1 2 3 4 5 6 7 8 9 10	LL Hg	1 2 3 4 5 6 7 8 9 10	
Toxaphene 1 2 3 4 5 6 7 8 9 10	GCN Available CN	1 2 3 4 5 6 7 8 9 10	Low Level Mercury	1 2 3 4 5 6 7 8 9 10	
Specialty Pesticides 1 2 3 4 5 6 7 8 9 10			MAD or MD - Dissolved Metals		
BNA BASE NEUTRAL & ACIDS (8270)	INORGANIC		Lab Filtration	1 2 3 4 5 6 7 8 9 10	
BNAs 1 2 3 4 5 6 7 8 9 10	MIN pH, Conductance	1 2 3 4 5 6 7 8 9 10	MICH TEN METALS	1 2 3 4 5 6 7 8 9 10	
Benzidines 1 2 3 4 5 6 7 8 9 10	Cl ⁻ , SO ₄ ⁻² , Total Alk	1 2 3 4 5 6 7 8 9 10	(As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)		
PNAs only 1 2 3 4 5 6 7 8 9 10	HCO ₃ ⁻ , CO ₃ ⁻² , Alk	1 2 3 4 5 6 7 8 9 10	OP MEMO 2 Metals	1 2 3 4 5 6 7 8 9 10	
BNs only 1 2 3 4 5 6 7 8 9 10	Cr ⁺⁶	1 2 3 4 5 6 7 8 9 10	(Sb, As, Ba, Be, Cd, Cr, Cu, Co, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, V, Zn)		
ACIDs only 1 2 3 4 5 6 7 8 9 10			[Circle Metal and Corresponding Sample No. Below]		
ORGANIC SPECIAL REQUESTS			Al Sb As Ba Be B Cd Cr	1 2 3 4 5 6 7 8 9 10	
Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10			Co Cu Fe Pb Li Mn Hg Mo		
Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10			Ni Se Ag Sr Ti Tl V Zn	1 2 3 4 5 6 7 8 9 10	
FingerPrint 1 2 3 4 5 6 7 8 9 10			Ca Mg K Na	1 2 3 4 5 6 7 8 9 10	
DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10			Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10	
			LL Hg	1 2 3 4 5 6 7 8 9 10	
			Low Level Mercury	1 2 3 4 5 6 7 8 9 10	

Chain-of-Custody	ED BY / ORGANIZATION		RECEIVED BY / ORGANIZATION		DATE	TIME
	Print Name & Organization	Ron Friend Gannett Fleming	Print Name & Organization			
	Signature	<i>Ron Friend</i>	Signature			
	Print Name & Organization	FedEx	Print Name & Organization	T.D.	11/27/13	11:27
Signature	79725578 5149	Signature				
Print Name & Organization		Print Name & Organization				
Signature		Signature				

SITE - BUILDING	LOCATION CODE	DESCRIPTION
Coolidge - Guard House	GD1101	Guard House
Coolidge - Dispatch	DP1101	Dispatch
Coolidge - Administration Building	AN1101	Vestibule
Coolidge - Administration Building	AN1102	Vestibule
Coolidge - Administration Building	AN1103	Break Room
Coolidge - Administration Building	AN1104	Men's Toilet
Coolidge - Administration Building	AN1106	TV Room
Coolidge - Administration Building	AN1107	Supt. Office
Coolidge - Administration Building	AN1108	Asst. Supt. Office
Coolidge - Administration Building	AN1109	Sec'y. Office
Coolidge - Administration Building	AN1111	Sched. Office
Coolidge - Administration Building	AN1112	Lost and Found
Coolidge - Administration Building	AN1113	Union Office
Coolidge - Administration Building	AN1114	Vault
Coolidge - Administration Building	AN1115	Men's Toilet
Coolidge - Administration Building	AN1116	Women's Toilet
Coolidge - Administration Building	AN1117	Storage
Coolidge - Administration Building	ANStair1	Stair1
Coolidge - Administration Building	ANStair2	stair2
Coolidge - Administration Building	AN1118	Storage
Coolidge - Administration Building	AN1119	Passage
Coolidge - Administration Building	AN1120	Janitor
Coolidge - Administration Building	AN2101	Utility
Coolidge - Administration Building	AN2102	Women's Toilet
Coolidge - Administration Building	AN2103	Women's Lockers
Coolidge - Administration Building	AN2104	Storage
Coolidge - Administration Building	AN2105	Passage
Coolidge - Administration Building	AN2106	Janitor
Coolidge - Administration Building	AN2107	Storage
Coolidge - Administration Building	AN2108	Kitchen
Coolidge - Administration Building	AN2109	Radio Dispatch
Coolidge - Administration Building	AN2110	Corridor
Coolidge - Administration Building	AN2111	Office
Coolidge - Administration Building	AN2112	xxx
Coolidge - Administration Building	AN2113	Office
Coolidge - Administration Building	AN2114	Lobby
Coolidge - Administration Building	AN2116	Office
Coolidge - Administration Building	AN2117	Office
Coolidge - Administration Building	AN2118	Computer Equipment
Coolidge - Administration Building	AN2119	Electrical Room
Coolidge - Administration Building	AN2120	Men's Toilet
Coolidge - Administration Building	AN2121	Women's Toilet

bldg_room

Coolidge - Administration Building	AN2122	Closet
<hr/>		
Coolidge - Bus Garage	CB1101	Fueling Lanes
Coolidge - Bus Garage	CB1102	Bus Wash Lanes
Coolidge - Bus Garage	CB1103	Fueling Lane
Coolidge - Bus Garage	CB1104	Men's Lockers
Coolidge - Bus Garage	CB1106	Men's Toilet
Coolidge - Bus Garage	CB1107	Tire Storage
Coolidge - Bus Garage	CB1108	Battery Storage
Coolidge - Bus Garage	CB1109	Head Office
Coolidge - Bus Garage	CB1111	Office
Coolidge - Bus Garage	CB1112	Tools Storage
Coolidge - Bus Garage	CB1113	Women's Toilet
Coolidge - Bus Garage	CB1114	Women's Locker
Coolidge - Bus Garage	CB1116	Locker
Coolidge - Bus Garage	CB1117	Storage
Coolidge - Bus Garage	CB1118	Storage
Coolidge - Bus Garage	CB1119	Storage
Coolidge - Bus Garage	CB1121	Oil and Grease Room
Coolidge - Bus Garage	CB1122	Bus Maintenance
Coolidge - Bus Garage	CB1123	Bay 1
Coolidge - Bus Garage	CB1124	Bay 2
Coolidge - Bus Garage	CB1126	Bay 3
Coolidge - Bus Garage	CB1127	Bay 4
Coolidge - Bus Garage	CB1128	Bay 5
Coolidge - Bus Garage	CB1129	xxx
Coolidge - Bus Garage	CB1130	Storage
Coolidge - Bus Garage	CB1131	Janitor
Coolidge - Bus Garage	CB1132	Storage
Coolidge - Bus Garage	CB1133	Mezzanine
Coolidge - Bus Garage	CB1134	Electrical Mezzanine
Coolidge - Bus Garage	CB1135	Storage
<hr/>		
Coolidge - Box House	FA1101	Fare Box
Coolidge - Box House	FA1102	Obsevation Room
<hr/>		
Coolidge - Boiler	BB1101	Equipment
Coolidge - Boiler	BB1102	Mechanical
Coolidge - Boiler	BB1103	Closet
Coolidge - Boiler	BB1104	Storage
Coolidge - Boiler	BB1106	Storage
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Gilbert - Administration Building	AM0101	Electric Panel Room

bldg_room

Gilbert - Administration Building	AMSTAIR2	Stairs - North East
Gilbert - Administration Building	AMSTAIR1	Stairs - North West
Gilbert - Administration Building	AM1101	Break Room
Gilbert - Administration Building	AM1102	Vestibule
Gilbert - Administration Building	AM1103	Vestibule
Gilbert - Administration Building	AM1104	Toilet
Gilbert - Administration Building	AM1106	Janitor's Closet - Large
Gilbert - Administration Building	AM1107	Janitor's Closet - Small
Gilbert - Administration Building	AM1108	Conference Room
Gilbert - Administration Building	AM1109	Office
Gilbert - Administration Building	AM1111	Assistant Superintendent's Office
Gilbert - Administration Building	AM1112	Superintendent's Office
Gilbert - Administration Building	AM1113	Schedule Adj. Office
Gilbert - Administration Building	AM1114	Toilet
Gilbert - Administration Building	AM1116	Station Master's Office
Gilbert - Administration Building	AM1117	Cash Office
Gilbert - Administration Building	AM1118	Vault
Gilbert - Administration Building	AM1119	Passage
Gilbert - Administration Building	AM2101	Lounge
Gilbert - Administration Building	AM2102	Technical Instruction Office
Gilbert - Administration Building	AM2103	Office
Gilbert - Administration Building	AM2104	Records
Gilbert - Administration Building	AM2101	Storage Closet
Gilbert - Administration Building	AM2106	Corridor
Gilbert - Administration Building	AM2107	Corridor
Gilbert - Administration Building	AM2108	Toilet
Gilbert - Administration Building	AM2109	Locker Room
Gilbert - Administration Building	AM2111	Class Room
Gilbert - Administration Building	AM2112	Simulation Room
Gilbert - Administration Building	AM2113	Office
Gilbert - Administration Building	AM2114	Office
Gilbert - Administration Building	AM2116	Corridor
Gilbert - Administration Building	AM2117	Janitor's Closet
Gilbert - Administration Building	AM2118	Janitor's Closet
Gilbert - Administration Building	AM2119	Passage
<hr/>		
Gilbert - Boiler House	BO1101	Boiler House
<hr/>		
Gilbert - Guard House	GH1101	Guard House
Gilbert - Guard House	GH1102	Electrical Switch Gear
<hr/>		
Gilbert - Fare Box House	FB1101	Fare Box
Gilbert - Fare Box House	FB1102	Observation Room

bldg_room

Gilbert - Bus Garage	BG1101	Fueling Area
Gilbert - Bus Garage	BG1102	Mech./Elec. Room
Gilbert - Bus Garage	BG1103	Storage Cage
Gilbert - Bus Garage	BG1104	Bus Wash Area
Gilbert - Bus Garage	BG1106	Fueling / Bus Wash
Gilbert - Bus Garage	BG1107	Tire Storage
Gilbert - Bus Garage	BG1108	Battery Storage
Gilbert - Bus Garage	BG1109	Cage
Gilbert - Bus Garage	BG1111	Parts Storage
Gilbert - Bus Garage	BG1112	Storage
Gilbert - Bus Garage	BG1113	Storage
Gilbert - Bus Garage	BG1114	Men's Toilet
Gilbert - Bus Garage	BG1116	Men's Lockers
Gilbert - Bus Garage	BG1117	Storage
Gilbert - Bus Garage	BG1118	Mechanical / Electrical Room
Gilbert - Bus Garage	BG1119	Oil and Grease Room
Gilbert - Bus Garage	BG1121	Bay 1
Gilbert - Bus Garage	BG1122	Bay 2
Gilbert - Bus Garage	BG1123	Bay 3
Gilbert - Bus Garage	BG1124	Bay 4
Gilbert - Bus Garage	BG1126	Bay 5

Gilbert - Dispatch	DS1101	Dispatch
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Shoemaker - Maintenance Garage	A1100	Write Up
Shoemaker - Maintenance Garage	A1101	Service Garage
Shoemaker - Maintenance Garage	A1102	Corridor
Shoemaker - Maintenance Garage	A1103	Grease Room
Shoemaker - Maintenance Garage	A1104	Steam Room
Shoemaker - Maintenance Garage	A1106	Batteries
Shoemaker - Maintenance Garage	A1107	Tires
Shoemaker - Maintenance Garage	A1108	Parts
Shoemaker - Maintenance Garage	A1109	Storage
Shoemaker - Maintenance Garage	A1110	Electrical
Shoemaker - Maintenance Garage	A1111	Men's Locker
Shoemaker - Maintenance Garage	A1112	Men's Toilet
Shoemaker - Maintenance Garage	A1113	Wash Equipment
Shoemaker - Maintenance Garage	A1114	Men's Locker
Shoemaker - Maintenance Garage	A1115	Janitor Closet
Shoemaker - Maintenance Garage	A1116	Corridor
Shoemaker - Maintenance Garage	A1117	Women's Locker
Shoemaker - Maintenance Garage	A1118	Passage
Shoemaker - Maintenance Garage	A1119	Office
Shoemaker - Maintenance Garage	A1120	Mech.

bldg_room

Shoemaker - Maintenance Garage	A1121	Office
Shoemaker - Maintenance Garage	A1122	Office
Shoemaker - Maintenance Garage	A1123	IDF Room
Shoemaker - Maintenance Garage	A1124	Elec. Room
Shoemaker - Maintenance Garage	A1125	Break Room
Shoemaker - Maintenance Garage	A1126	Vending
Shoemaker - Maintenance Garage	A2200	Vaccum Equip. Mezzanine

Shoemaker - Coach Storage	B1100	Bay 1
Shoemaker - Coach Storage	B1101	Bay 2
Shoemaker - Coach Storage	B1102	Bay 3
Shoemaker - Coach Storage	B1103	Bay 4
Shoemaker - Coach Storage	B1104	Fare Box Repair
Shoemaker - Coach Storage	B1105	Fare Box
Shoemaker - Coach Storage	B1107	Tire Repair
Shoemaker - Coach Storage	B1108	IDF
Shoemaker - Coach Storage	B1109	Elec.
Shoemaker - Coach Storage	B1110	Office
Shoemaker - Coach Storage	B1111	Lockers
Shoemaker - Coach Storage	B1112	Toilet

Shoemaker - Terminal Building	C1101	Vestibule
Shoemaker - Terminal Building	C1102	Men's Toilet
Shoemaker - Terminal Building	C1103	Women's Toilet
Shoemaker - Terminal Building	C1104	Closet
Shoemaker - Terminal Building	C1105	Sup. Office
Shoemaker - Terminal Building	C1106	Lobby
Shoemaker - Terminal Building	C1107	Corridor
Shoemaker - Terminal Building	C1108	Corridor
Shoemaker - Terminal Building	C1109	Sec. Office
Shoemaker - Terminal Building	C1110	Scheduling
Shoemaker - Terminal Building	C1111	Assistant Sup. Office
Shoemaker - Terminal Building	C1112	Office
Shoemaker - Terminal Building	C1113	MDF
Shoemaker - Terminal Building	C1114	Passage
Shoemaker - Terminal Building	C1115	Break Room
Shoemaker - Terminal Building	C1116	Closet
Shoemaker - Terminal Building	C1117	TV Room
Shoemaker - Terminal Building	C1118	Scheduling Area
Shoemaker - Terminal Building	C1119	Union Office
Shoemaker - Terminal Building	C1120	Work Room
Shoemaker - Terminal Building	C1121	Janitor Closet
Shoemaker - Terminal Building	C1122	Men's
Shoemaker - Terminal Building	C1123	Drying
Shoemaker - Terminal Building	C1124	Drying
Shoemaker - Terminal Building	C1125	Women's
Shoemaker - Terminal Building	C1126	Women's Locker Room

bldg_room

Shoemaker - Terminal Building	C1127	Women's Locker Room
Shoemaker - Terminal Building	C1128	Men's Locker Room
Shoemaker - Terminal Building	C1129	Janitor Closet
Shoemaker - Terminal Building	C1135	Lobby
Shoemaker - Terminal Building	C1136	Simulators
Shoemaker - Terminal Building	C1137	Classroom
Shoemaker - Terminal Building	C1138	Corridor
Shoemaker - Terminal Building	C1139	Open Office
Shoemaker - Terminal Building	C1140A	Office
Shoemaker - Terminal Building	C1140B	Office
Shoemaker - Terminal Building	C1141	Classroom
Shoemaker - Terminal Building	C1142	Computer Lab
Shoemaker - Terminal Building	C1143	Janitor Closet
Shoemaker - Terminal Building	C1144	Women's Toilet
Shoemaker - Terminal Building	C1145	Men's Toilet
Shoemaker - Terminal Building	C1146	Classroom
Shoemaker - Terminal Building	C1147	Storage
Shoemaker - Terminal Building	C1148	Elec.
Shoemaker - Terminal Building	C1149	IDF
Shoemaker - Terminal Building	C1150	Entry
Shoemaker - Terminal Building	C2200	Mech. Mezzanine

Shoemaker - Training	D1100	Vest
Shoemaker - Training	D1101	Lobby
Shoemaker - Training	D1102	Corridor
Shoemaker - Training	D1103	Corridor
Shoemaker - Training	D1104	Passage
Shoemaker - Training	D1105	Conf. Room
Shoemaker - Training	D1106	Jan. Closet
Shoemaker - Training	D1107	Men's Toilet
Shoemaker - Training	D1108	Women's Toilet
Shoemaker - Training	D1109	Computer Lab
Shoemaker - Training	D1110	Classroom
Shoemaker - Training	D1111	Computer Lab
Shoemaker - Training	D1112	Vehicle Maint. Classroom
Shoemaker - Training	D1113	Comm
Shoemaker - Training	D1114	Elec.
Shoemaker - Training	D1115	Workroom
Shoemaker - Training	D1116	Office
Shoemaker - Training	D1117	Office

Shoemaker - Fare Box House	E1101	Main Cash Room
Shoemaker - Fare Box House	E1102	Toilet Room
Shoemaker - Fare Box House	E1103	Control Room

bldg_room

Shoemaker - Alternative Fuels	F1100	Coach Storage Area
Shoemaker - Alternative Fuels	F1101	Coach Storage Area
Shoemaker - Alternative Fuels	F1102	Alternative Fuels Area
Shoemaker - Alternative Fuels	F1103	Body Shop Storage
Shoemaker - Alternative Fuels	F1104	Body Shop
Shoemaker - Alternative Fuels	F1105	A.F. Dry Storage
Shoemaker - Alternative Fuels	F1106	A.F. Storage
Shoemaker - Alternative Fuels	F1107	IDF Room
Shoemaker - Alternative Fuels	F1108	Wash Bay
Shoemaker - Alternative Fuels	F1109	Compressor/Vacuum Room
Shoemaker - Alternative Fuels	F1110	Electrical Room
Shoemaker - Alternative Fuels	F1111	Staging & Prep Area
Shoemaker - Alternative Fuels	F1112	Lunchroom
Shoemaker - Alternative Fuels	F1113	Toilet/Shower
Shoemaker - Alternative Fuels	F1114	Office
Shoemaker - Alternative Fuels	F1115	Men's Toilet
Shoemaker - Alternative Fuels	F1116	Women's Toilet
Shoemaker - Alternative Fuels	F1117	Rehab Area
Shoemaker - Alternative Fuels	F1118	Paint Booth
Shoemaker - Alternative Fuels	F1119	Mixing Booth

Shoemaker - Guard House - K1	K1100X	Guard Room
Shoemaker - Guard House - K1	K1101X	Toilet

Shoemaker - Guard House - K2	K1100A	Guard Room
Shoemaker - Guard House - K2	K1101A	Toilet

Shoemaker - Bus Assignment - M2	M1101	Bus Assignment Building
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Shoemaker - Pump House - PH	PH1100	Pump House
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Central-Heavy Maint	HM0101	Storage
Central-Heavy Maint	HM0102	Fare Box Repair
Central-Heavy Maint	HM0103	Mechanical
Central-Heavy Maint	HM0104	Mechanical
Central-Heavy Maint	HM0106	Storage
Central-Heavy Maint	HM0107	Storage
Central-Heavy Maint	HM0108	Storage
Central-Heavy Maint	HM0109	Storage
Central-Heavy Maint	HM0111	Storage
Central-Heavy Maint	HM0112	Storage
Central-Heavy Maint	HM0113	Storage
Central-Heavy Maint	HM0114	Corridor

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Central-Heavy Maint	HM1101	Corridor
Central-Heavy Maint	HM1102	Office
Central-Heavy Maint	HM1103	Computer Work Shop
Central-Heavy Maint	HM1104	Office
Central-Heavy Maint	HM1105	MIS Dept.
Central-Heavy Maint	HM1106	Rest Room
Central-Heavy Maint	HM1107	Rest Room
Central-Heavy Maint	HM1108	Corridor
Central-Heavy Maint	HM1109	Office
Central-Heavy Maint	HM1111	Corridor
Central-Heavy Maint	HM1112	Office
Central-Heavy Maint	HM1113	Office
Central-Heavy Maint	HM1114	Networking
Central-Heavy Maint	HM1116	Unit Repair
Central-Heavy Maint	HM1117	Injector Repair
Central-Heavy Maint	HM1118	Battery Room
Central-Heavy Maint	HM1119	Trans Dyno Room
Central-Heavy Maint	HM1121	Truck Unloading
Central-Heavy Maint	HM1122	Radiator Repair
Central-Heavy Maint	HM1123	Men's Room
Central-Heavy Maint	HM1124	Locker
Central-Heavy Maint	HM1126	Toilet
Central-Heavy Maint	HM1127	Office
Central-Heavy Maint	HM1128	Equipment Room
Central-Heavy Maint	HM1129	Closet
Central-Heavy Maint	HM1131	Welding
Central-Heavy Maint	HM1132	Medical Room
Central-Heavy Maint	HM1133	Office
Central-Heavy Maint	HM1134	Rest Room
Central-Heavy Maint	HM1136	Closet
Central-Heavy Maint	HM1137	Janitor Closet
Central-Heavy Maint	HM1138	Eye Treatment
Central-Heavy Maint	HM1139	Storage
Central-Heavy Maint	HM1140	Machine Shop
Central-Heavy Maint	HM1141	Office
Central-Heavy Maint	HM1142	Receiving Dock Break Room
Central-Heavy Maint	HM1143	Office
Central-Heavy Maint	HM1144	Office
Central-Heavy Maint	HM1146	Storage
Central-Heavy Maint	HM1147	Main Stores
Central-Heavy Maint	HM1148	Elevator
Central-Heavy Maint	HM1149	Paint Room
Central-Heavy Maint	HM1151	Women's Locker Room
Central-Heavy Maint	HM1152	Storage
Central-Heavy Maint	HM1153	Men's Locker Room
Central-Heavy Maint	HM1154	Shower
Central-Heavy Maint	HM1156	Office
Central-Heavy Maint	HM1157	Truck Dock
Central-Heavy Maint	HM1158	Corridor
Central-Heavy Maint	HM1159	Storage
Central-Heavy Maint	HM1161	General File Storage
Central-Heavy Maint	HM1162	Paint Area Stores

bldg_room

Central-Heavy Maint	HM1163	C.S. Storage
Central-Heavy Maint	HM1164	Sheet Metal Shop
Central-Heavy Maint	HM1166	Small Parts Storage
Central-Heavy Maint	HM1168	Parts Storage
Central-Heavy Maint	HM1169	Major Repair
Central-Heavy Maint	HM1171	Storage
Central-Heavy Maint	HM1172	Office
Central-Heavy Maint	HM1173	Storage
Central-Heavy Maint	HM1174	Electrical
Central-Heavy Maint	HM1176	Janitor Closet
Central-Heavy Maint	HM1177	Wash Room
Central-Heavy Maint	HM1178	Men's Toilet
Central-Heavy Maint	HM1179	Wash Room
Central-Heavy Maint	HM1181	Locker
Central-Heavy Maint	HM1182	Shower
Central-Heavy Maint	HM1183	Office
Central-Heavy Maint	HM1184	Office
Central-Heavy Maint	HM1186	Toilet
Central-Heavy Maint	HM1188	Brake Area
Central-Heavy Maint	HM1189	Storage
Central-Heavy Maint	HM1191	Office
Central-Heavy Maint	HM1192	Office
Central-Heavy Maint	HM1193	Wash Rack
Central-Heavy Maint	HM1194	Steam Room
Central-Heavy Maint	HM1196	Locker Room
Central-Heavy Maint	HM1197	Toilet
Central-Heavy Maint	HM1198	Office
Central-Heavy Maint	HM1199	Tire Repair
Central-Heavy Maint	HM1201	Office
Central-Heavy Maint	HM1202	Grease Room
Central-Heavy Maint	HM2101	Mechanical
Central-Heavy Maint	HM2102	Mechanical
Central-Heavy Maint	HM2103	Electrical
Central-Heavy Maint	HM2104	Mezz.
Central-Heavy Maint	HM2106	Mezz.
Central-Heavy Maint	HM2107	Lunch Room
Central-Heavy Maint	HM2108	Toilet
Central-Heavy Maint	HM2109	Office
Central-Heavy Maint	HM2111	Office
Central-Heavy Maint	HM2112	Communications Closet
Central-Heavy Maint	HM2113	Mezzanine
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Central-Facility Maint	MA1101	Garage
Central-Facility Maint	MA1102	Storage
Central-Facility Maint	MA1103	Storage
Central-Facility Maint	MA1104	Storage
Central-Facility Maint	MA1106	Radio Repair
Central-Facility Maint	MA1107	Wood Shop
Central-Facility Maint	MA1108	Storage

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Central-Facility Maint	MA1109	Work Area
Central-Facility Maint	MA1110	Office
Central-Facility Maint	MA1111	General Office
Central-Facility Maint	MA1112	Office
Central-Facility Maint	MA1113	Kitchen
Central-Facility Maint	MA1114	Storage
Central-Facility Maint	MA1115	Women's Locker Room
Central-Facility Maint	MA1116	Men's Locker Room
Central-Facility Maint	MA1117	Storage
Central-Facility Maint	MA1118	Storage
Central-Facility Maint	MA1119	Break Room
Central-Facility Maint	MA1120	Toilet Room
Central-Facility Maint	MA1121	Women's

Central-cng	NG1101	Body Shop
Central-cng	NG1102	Electrical Room
Central-cng	NG1103	Storage
Central-cng	NG1104	Janitor
Central-cng	NG1106	Men's Room
Central-cng	NG1107	Women's
Central-cng	NG1108	Office
Central-cng	NG1109	Wash and Clean Bay
Central-cng	NG1111	Compressor
Central-cng	NG1112	Paint Booth
Central-cng	NG1113	Paint Mixing Room

Central-admin	AD0101	Office
Central-admin	AD0102	Stationary Stores
Central-admin	AD0103	Printing Shop
Central-admin	AD0104	Corridor
Central-admin	AD0105	Corridor
Central-admin	AD0106	Office
Central-admin	AD0107	Storage
Central-admin	AD0108	Office
Central-admin	AD0109	Wall Closet
Central-admin	AD0111	Training Room
Central-admin	AD0112	Office
Central-admin	AD0113	Office
Central-admin	AD0114	Office
Central-admin	AD0116	Quality Assurance and Research
Central-admin	AD0117	Corridor
Central-admin	AD0118	Ladie's room
Central-admin	AD0119	Telephone Equipment
Central-admin	AD0121	Elevator Room
Central-admin	AD0122	Janitor's Closet
Central-admin	AD0123	Training Room
Central-admin	AD0124	Storage
Central-admin	AD0125	Corridor

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Central-admin	AD0126	Storage
Central-admin	AD0127	Men's Room
Central-admin	AD0128	Training Room
Central-admin	ADSTAIR1	SW Stair 1
Central-admin	ADSTAIR2	SE Stair 2
Central-admin	AD1100	Vestibule
Central-admin	AD1101	Lobby
Central-admin	AD1102	Office
Central-admin	AD1103	Lockers
Central-admin	AD1104	Lockers
Central-admin	AD1105	Corridor
Central-admin	AD1106	Mail Room
Central-admin	AD1107	Electrical
Central-admin	AD1108	Comm. Room
Central-admin	AD1109	Ladies Room
Central-admin	AD1111	Corridor
Central-admin	AD1112	Conference Room
Central-admin	AD1113	Security Office
Central-admin	AD1114	Office
Central-admin	AD1116	Storage
Central-admin	AD1117	Office
Central-admin	AD1118	Office
Central-admin	AD1119	Office
Central-admin	AD1120	Corridor
Central-admin	AD1121	Office
Central-admin	AD1122	Office
Central-admin	AD1123	Customer Relations
Central-admin	AD1124	Office
Central-admin	AD1125	Conference Room
Central-admin	AD1126	Communication Closet
Central-admin	AD1127	Work Room
Central-admin	AD1128	Call Center
Central-admin	AD1129	Special Services
Central-admin	AD1130	Waiting
Central-admin	AD1131	Office
Central-admin	AD1132	Office
Central-admin	AD1133	Office
Central-admin	AD1134	Vehicle Maintenance
Central-admin	AD1135	Corridor
Central-admin	AD1136	Office
Central-admin	AD1137	Office
Central-admin	AD1138	Office
Central-admin	AD1139	Grants Admin. Office
Central-admin	AD1141	Money Room
Central-admin	AD1142	Office
Central-admin	AD1143	Storage
Central-admin	AD1144	Money Loading Dock
Central-admin	AD1147	Cashier
Central-admin	AD1148	Cashier
Central-admin	AD1149	Office
Central-admin	AD1151	Office

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Central-admin	AD1152	Office
Central-admin	AD1153	Cashier
Central-admin	AD1154	Men's Room
Central-admin	AD2101	Financial Services Department
Central-admin	AD2102	Office
Central-admin	AD2103	Human Resources Department
Central-admin	AD2104	Office
Central-admin	AD2106	Office
Central-admin	AD2107	Office
Central-admin	AD2108	Office
Central-admin	AD2109	Office
Central-admin	AD2111	Office
Central-admin	AD2112	Office
Central-admin	AD2113	Office
Central-admin	AD2114	Office
Central-admin	AD2116	Office
Central-admin	AD2117	Office
Central-admin	AD2118	Office
Central-admin	AD2119	Office
Central-admin	AD2121	Office
Central-admin	AD2122	Office
Central-admin	AD2123	Purchasing Department
Central-admin	AD2124	Storage
Central-admin	AD2126	Men's Room
Central-admin	AD2127	Office
Central-admin	AD2128	Office
Central-admin	AD2129	Office
Central-admin	AD2131	Office
Central-admin	AD2132	Conference Room
Central-admin	AD2133	Office
Central-admin	AD2134	Electrical
Central-admin	AD2135	Corridor
Central-admin	AD2136	Telephone
Central-admin	AD2137	Office
Central-admin	AD2138	Ladies Room
Central-admin	AD3101	Telephone
Central-admin	AD3102	Copy
Central-admin	AD3103	Office
Central-admin	AD3104	Office
Central-admin	AD3105	Corridor
Central-admin	AD3106	Office
Central-admin	AD3107	Accounting Department
Central-admin	AD3108	Office
Central-admin	AD3109	Office
Central-admin	AD3110	Mechanical
Central-admin	AD3111	Corridor
Central-admin	AD3112	Office
Central-admin	AD3113	Office
Central-admin	AD3114	Commercial Coordinator
Central-admin	AD3116	Conference Room

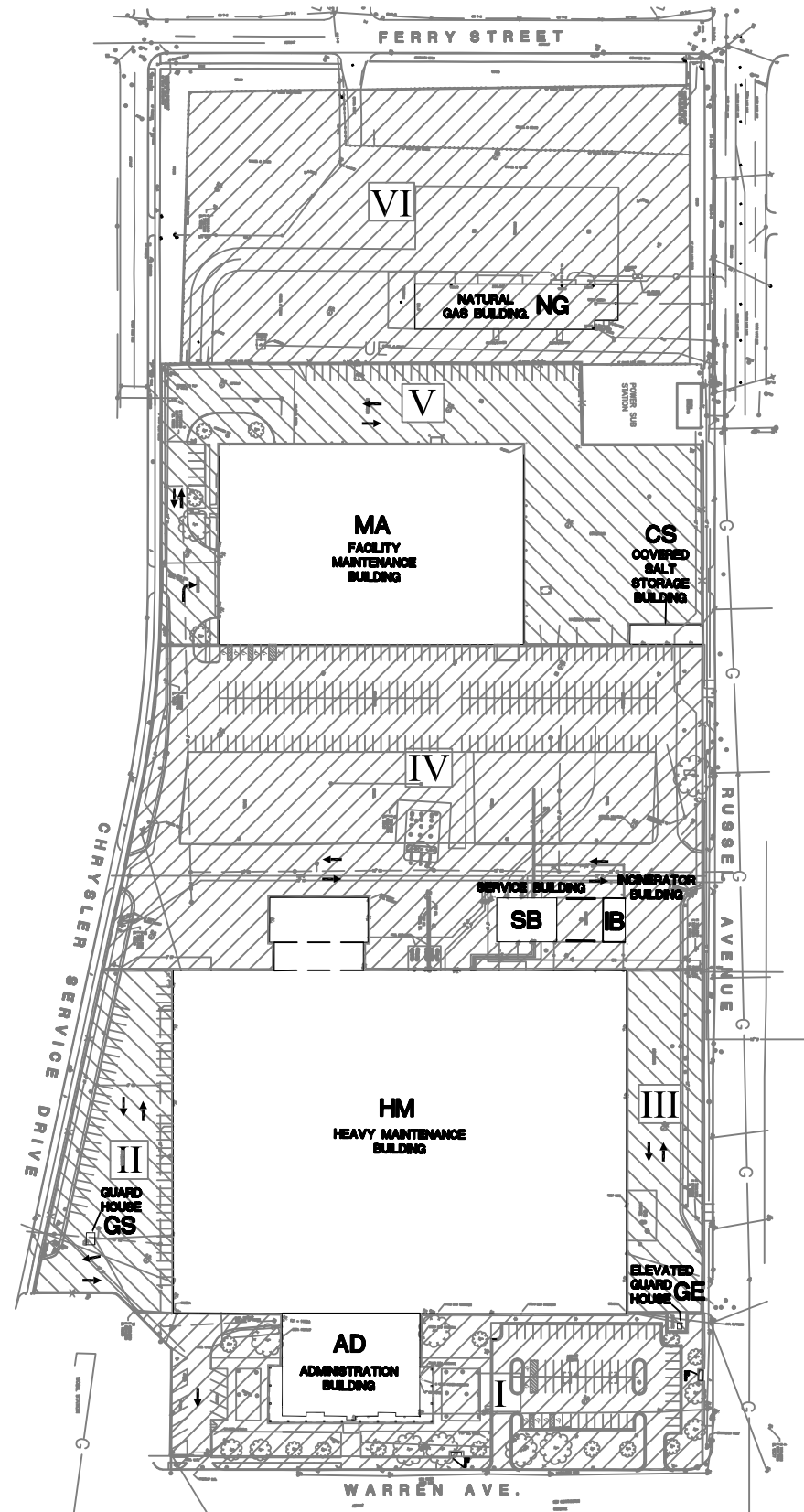
bldg_room

Central-admin	AD3117	Director
Central-admin	AD3118	Office
Central-admin	AD3119	Closet
Central-admin	AD3121	Office
Central-admin	AD3122	Deputy Director
Central-admin	AD3123	Office
Central-admin	AD3124	Trans Op. Office
Central-admin	AD3125	Office
Central-admin	AD3126	Office
Central-admin	AD3127	Office
Central-admin	AD3128	Office
Central-admin	AD3129	Office
Central-admin	AD3131	Storage
Central-admin	AD3132	General Office
Central-admin	AD3133	Ladies Room
Central-admin	AD3136	Office
Central-admin	AD3137	Office
Central-admin	AD3138	Office
Central-admin	AD3139	Office
Central-admin	AD3141	Office
Central-admin	AD3142	Office
Central-admin	AD3143	Office
Central-admin	AD3144	Scheduling and Marketing Office

Rosa Parks Terminal	RP0001	Security Storage
Rosa Parks Terminal	RP0002	Gun Discharge
Rosa Parks Terminal	RP0003	Office
Rosa Parks Terminal	RP0004	Security Office
Rosa Parks Terminal	RP0005	Oper. Storage
Rosa Parks Terminal	RP0006	Lower Level Lobby
Rosa Parks Terminal	RP0007	Elevator Machine Room
Rosa Parks Terminal	RP0008	Men's Lockers
Rosa Parks Terminal	RP0009	Men's Room
Rosa Parks Terminal	RP0010	Janitor Closet
Rosa Parks Terminal	RP0011	Women's Room
Rosa Parks Terminal	RP0012	Women's Lockers
Rosa Parks Terminal	RP0013	Multi-Pupose Room
Rosa Parks Terminal	RP0014	Boiler Room
Rosa Parks Terminal	RP0015	Stair #1
Rosa Parks Terminal	RP1101	Vestibule
Rosa Parks Terminal	RP1102	Concourse
Rosa Parks Terminal	RP1103	Stair #4
Rosa Parks Terminal	RP1104	Stair #2
Rosa Parks Terminal	RP1105	Vestibule
Rosa Parks Terminal	RP1106	Security
Rosa Parks Terminal	RP1107	Vestibule
Rosa Parks Terminal	RP1108	Vestibule
Rosa Parks Terminal	RP1109	Stair #3

bldg_room

Rosa Parks Terminal	RP1110	I.T. Room
Rosa Parks Terminal	RP1111	Supervisor / Information
Rosa Parks Terminal	RP1112	Seating
Rosa Parks Terminal	RP1113	Men's Room
Rosa Parks Terminal	RP1114	Women's Room
Rosa Parks Terminal	RP1115	Janitor's Closet
Rosa Parks Terminal	RP1116	Cashier
Rosa Parks Terminal	RP1117	Cash Work Room
Rosa Parks Terminal	RP1118	Retail
Rosa Parks Terminal	RP1119	Women's Room
Rosa Parks Terminal	RP1120	Men's Room
Rosa Parks Terminal	RP1121	Corridor
Rosa Parks Terminal	RP1122	Stair #1
Rosa Parks Terminal	RP1123	Vestibule
Rosa Parks Terminal	RP1124	Retail
Rosa Parks Terminal	RP1125	Generator
Rosa Parks Terminal	RP2101	Vestibule
Rosa Parks Terminal	RP2102	Passage
Rosa Parks Terminal	RP2103	Mechanical Room
Rosa Parks Terminal	RP2104	Electrical Room
Rosa Parks Terminal	RP2105	Retail
Rosa Parks Terminal	RP2106	Platform
Rosa Parks Terminal	RP2107	Walkway
Rosa Parks Terminal	RP2108	Seating
Rosa Parks Terminal	RP2109	Passage
Rosa Parks Terminal	RP2111	Stair #3



SITE PLAN



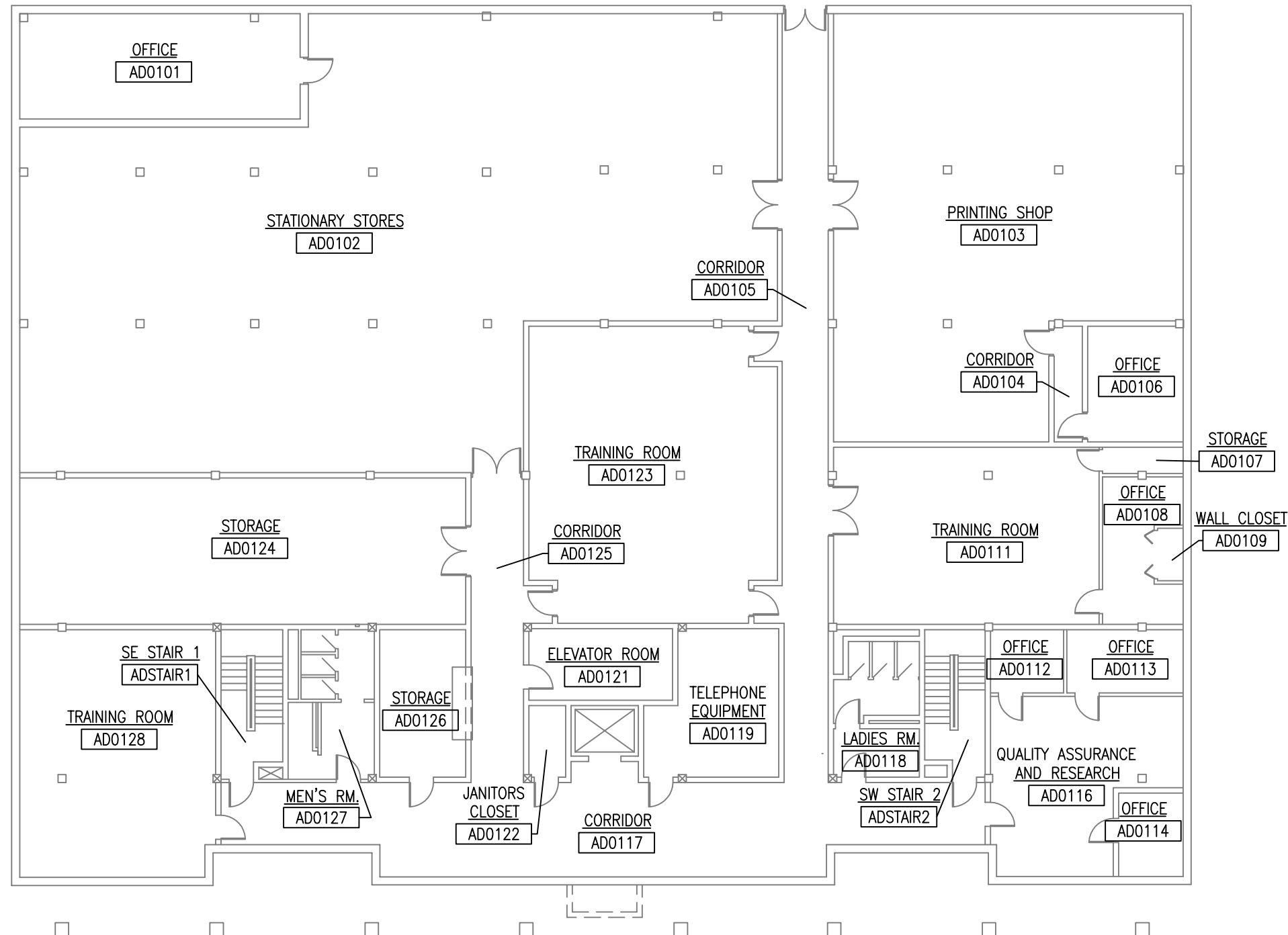
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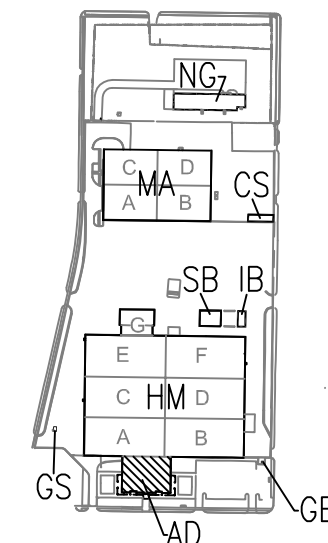
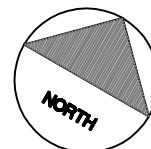
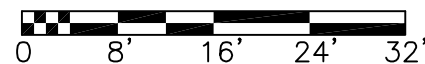
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
CENTRAL SITE PLAN
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	C10



BASEMENT FLOOR PLAN



KEY PLAN



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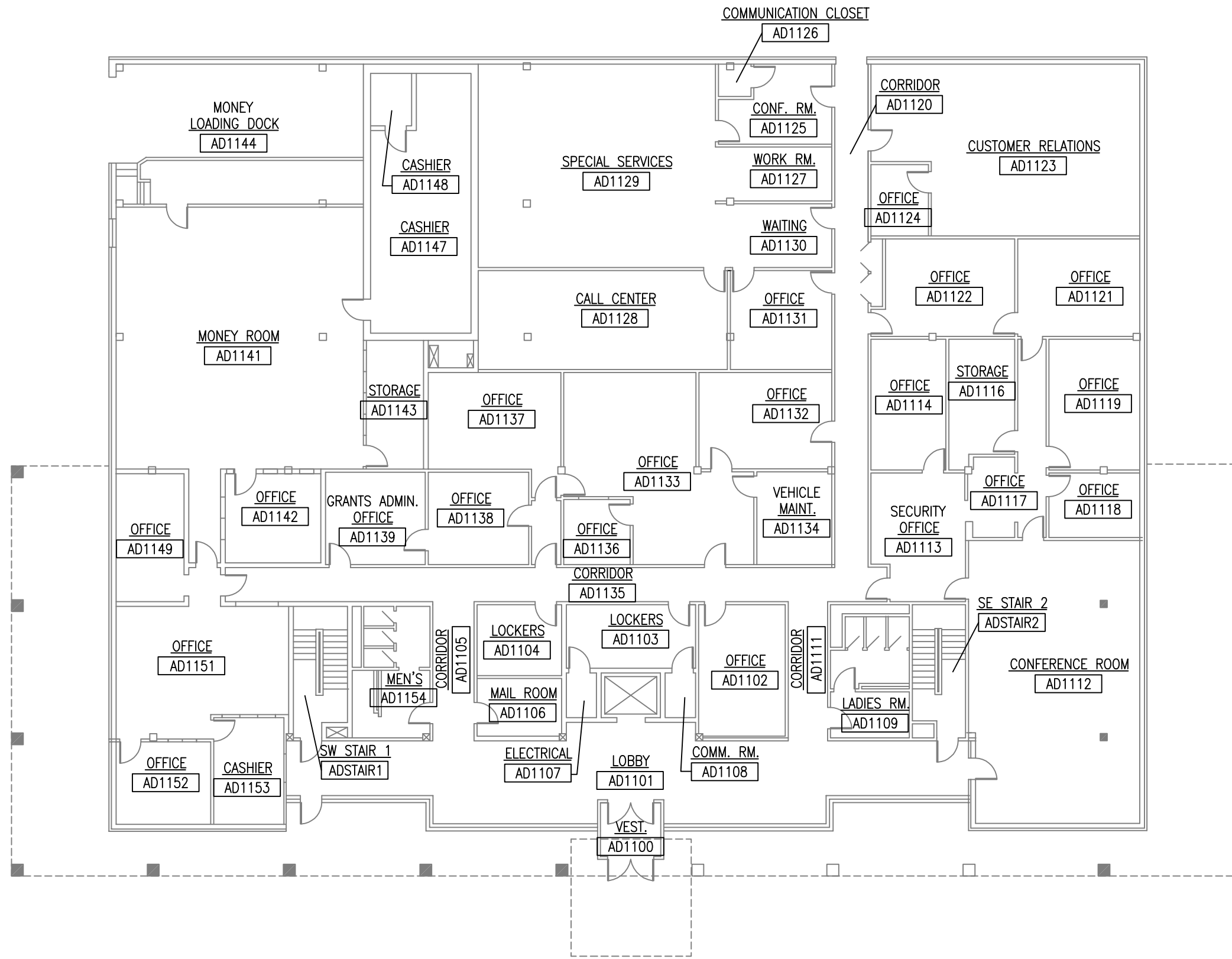


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY
 DETROIT, MI

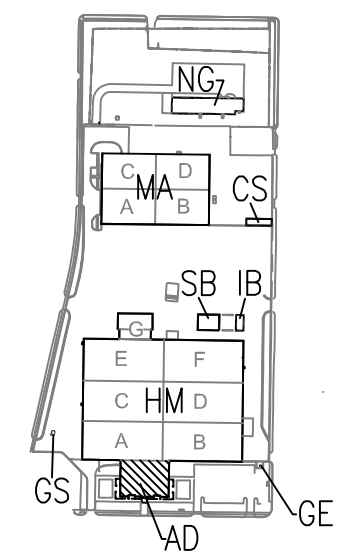
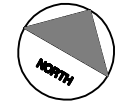
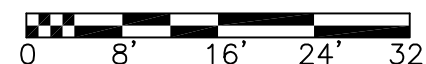
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ADMIN. BLDG. (AD) - ARCHITECTURAL

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A1.0A



FIRST FLOOR PLAN



KEY PLAN



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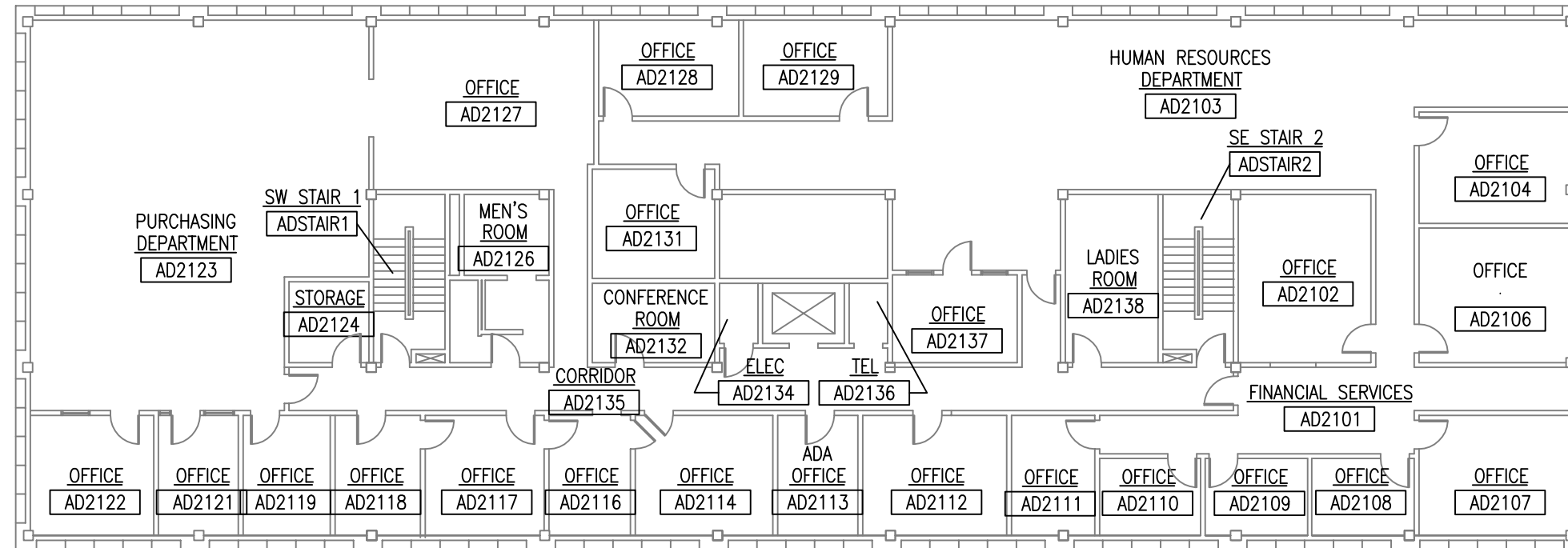


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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY
 DETROIT, MI

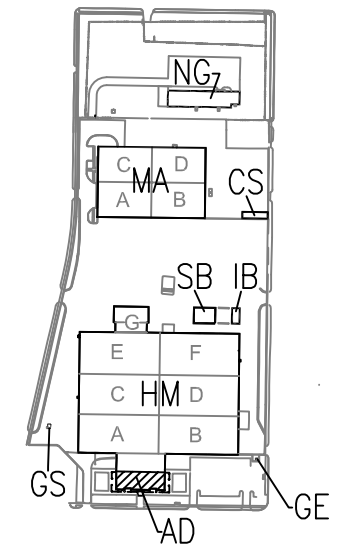
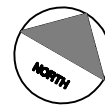
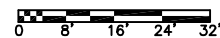
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URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 05-01-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A1.1A



SECOND FLOOR PLAN



KEY PLAN



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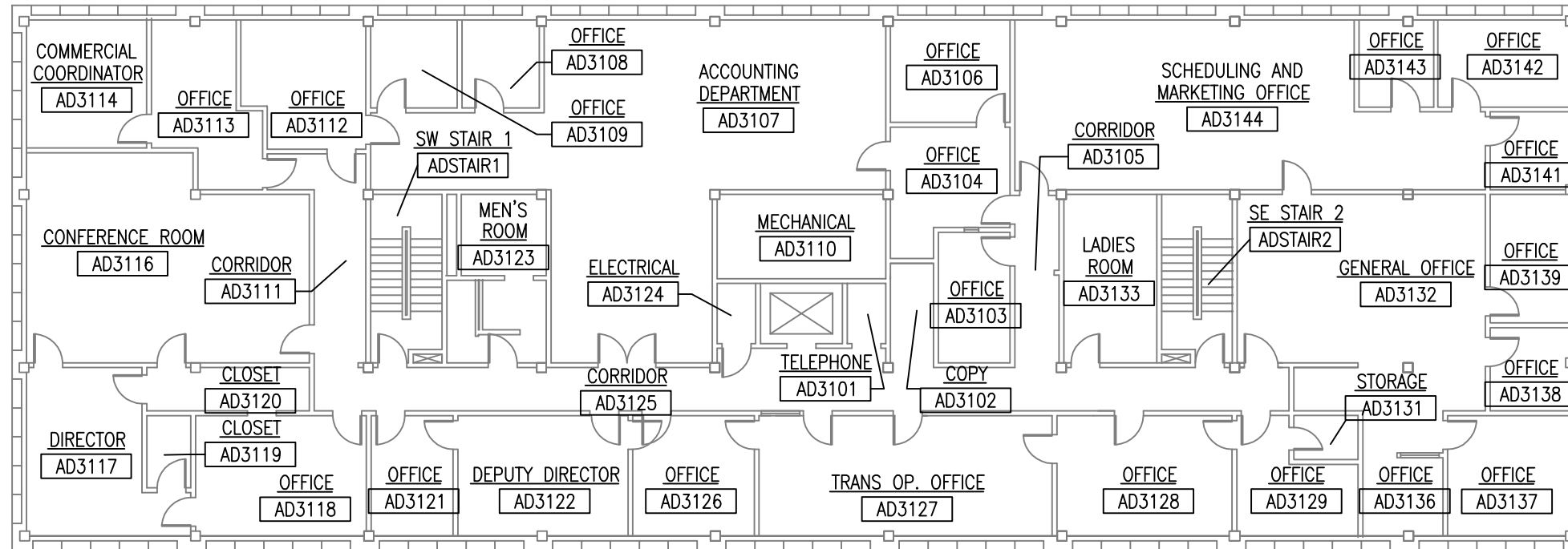


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY
 DETROIT, MI

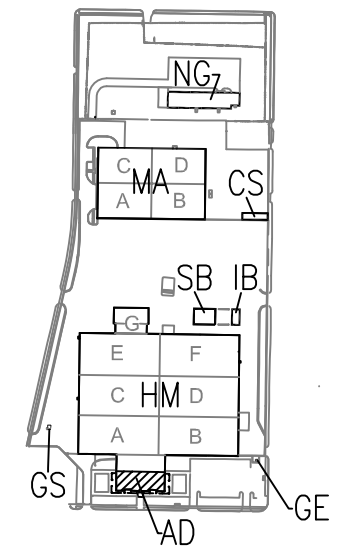
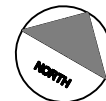
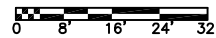
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ADMIN. BLDG. (AD) - ARCHITECTURAL

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A12A
CK. JPF	



THIRD FLOOR PLAN



KEY PLAN



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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY
 DETROIT, MI

TITLE
ADMIN. BLDG. (AD) - ARCHITECTURAL

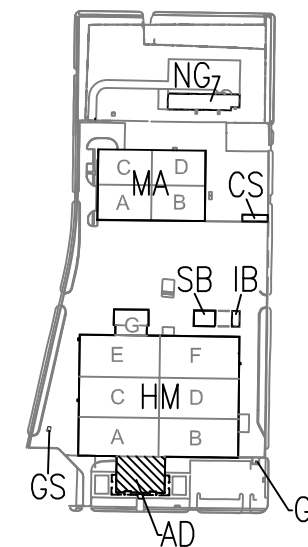
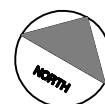
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 05-01-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A13A
CK. JPF	



ROOF PLAN

NO SCALE



KEY PLAN



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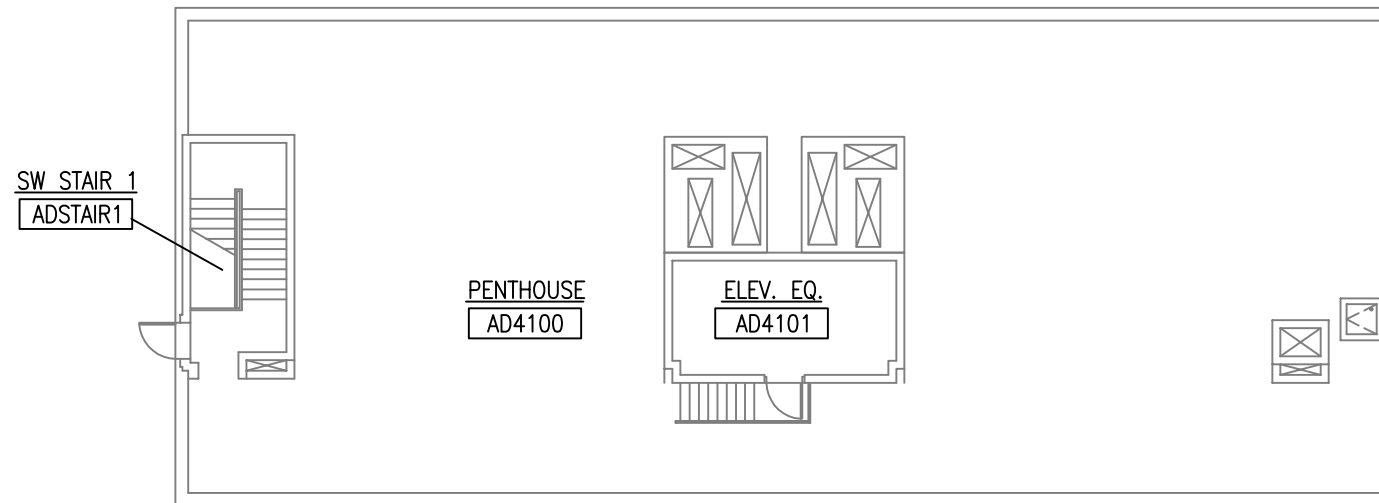


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

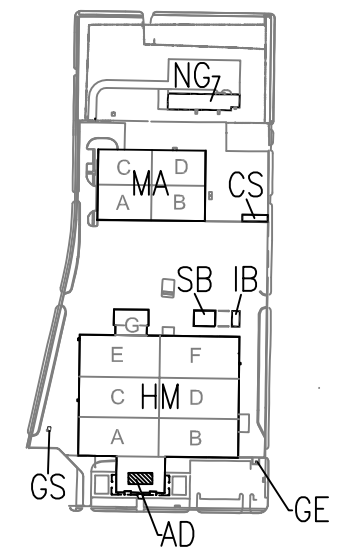
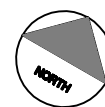
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URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A1.4
CK. JPF	



PENTHOUSE PLAN
NO SCALE



KEY PLAN

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DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

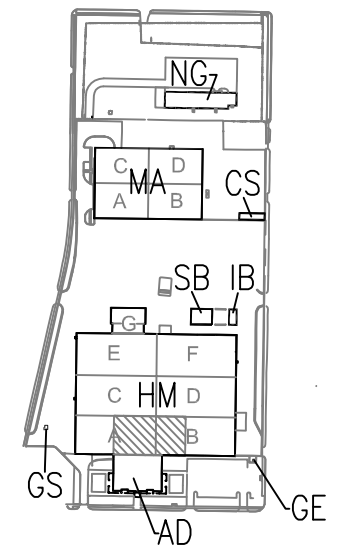
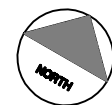
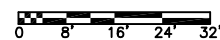
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URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A15
CK. JPF	



BASEMENT FLOOR PLAN



KEY PLAN



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DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

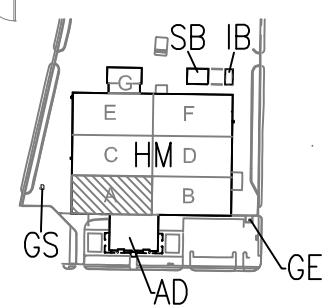
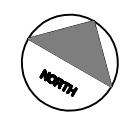
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HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A2.0A



FIRST FLOOR PLAN AREA "A"



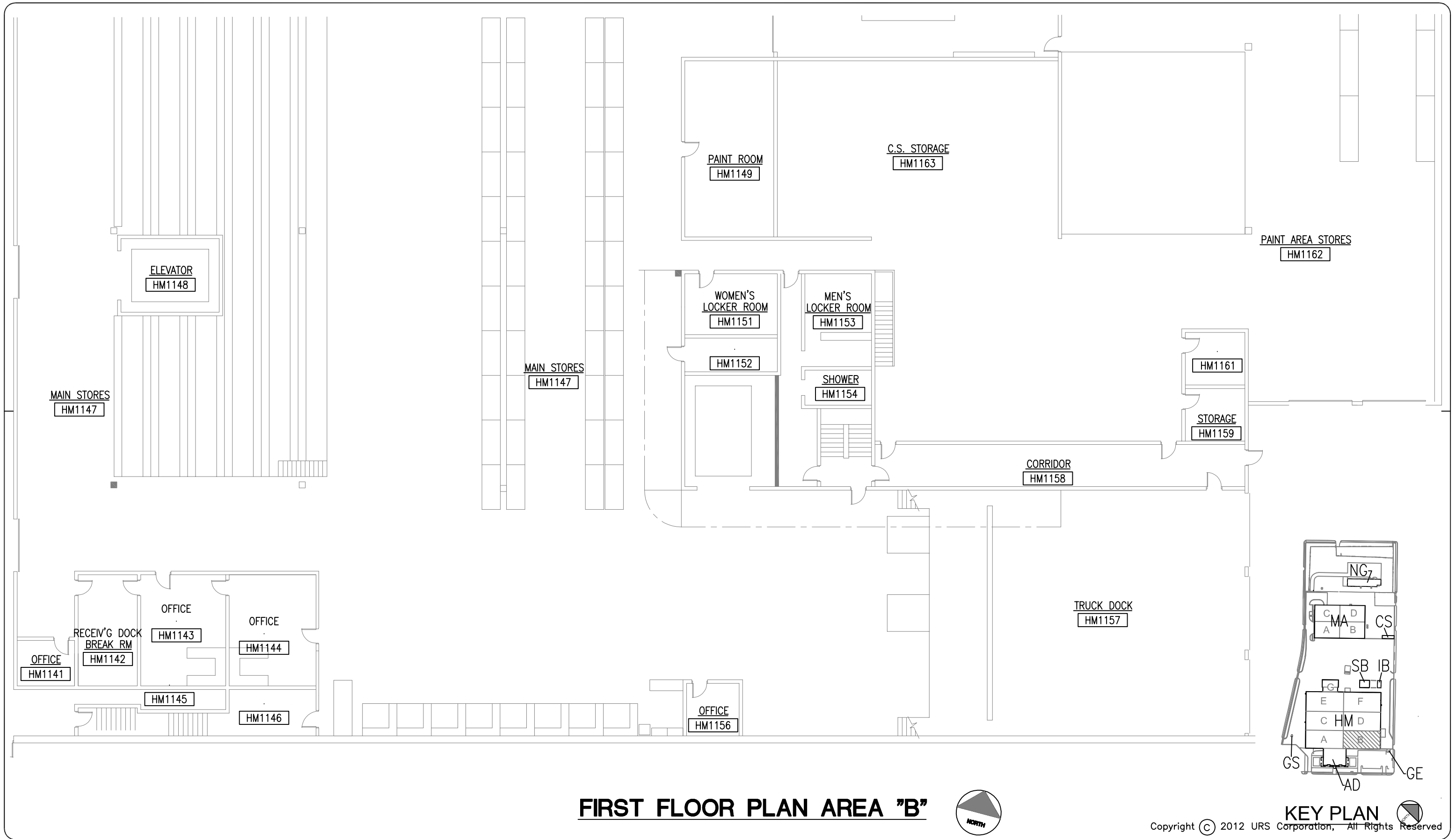
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY
 DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 05-01-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1A
CK. JPF	

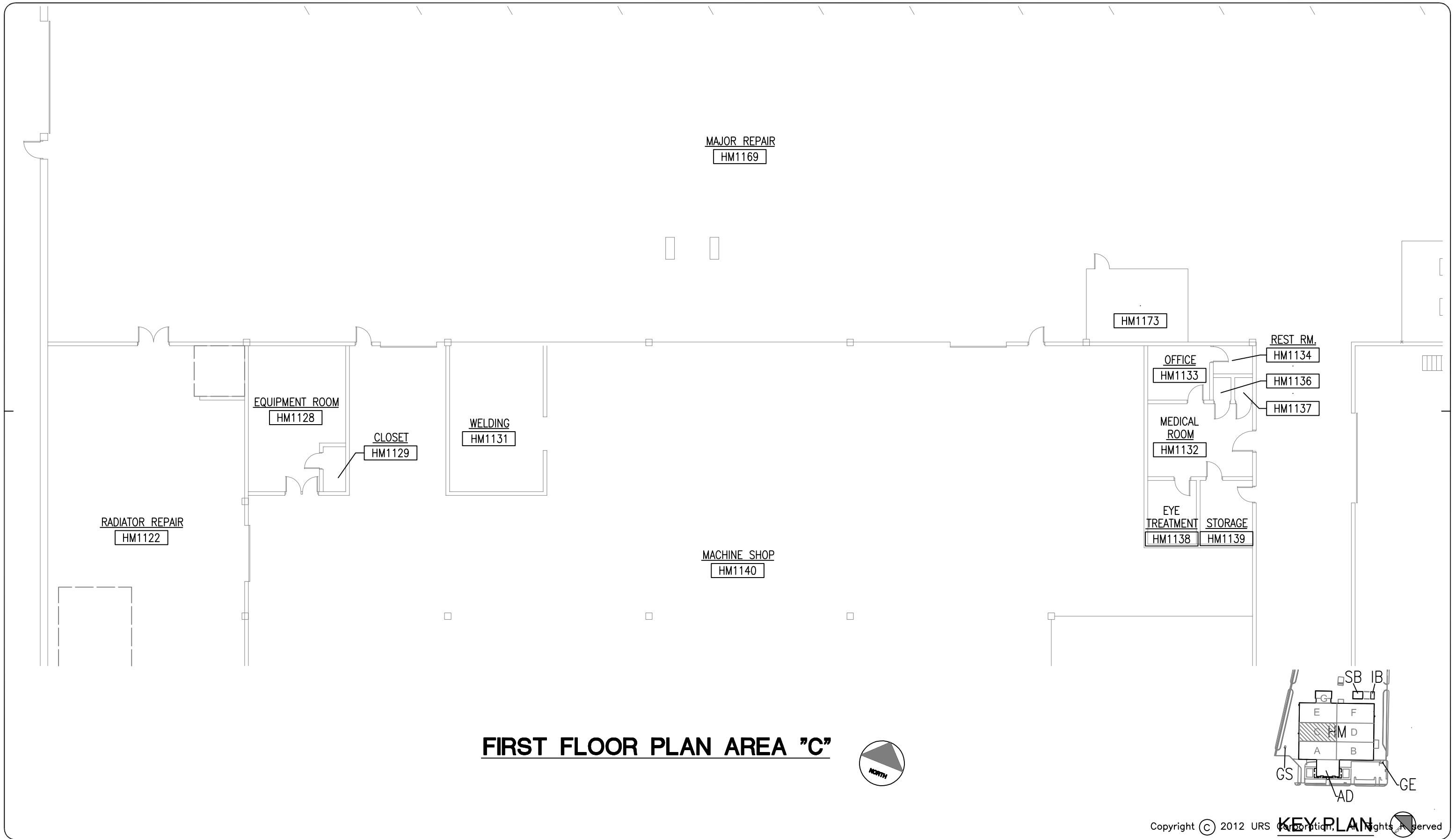


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1B
CK. JPF	

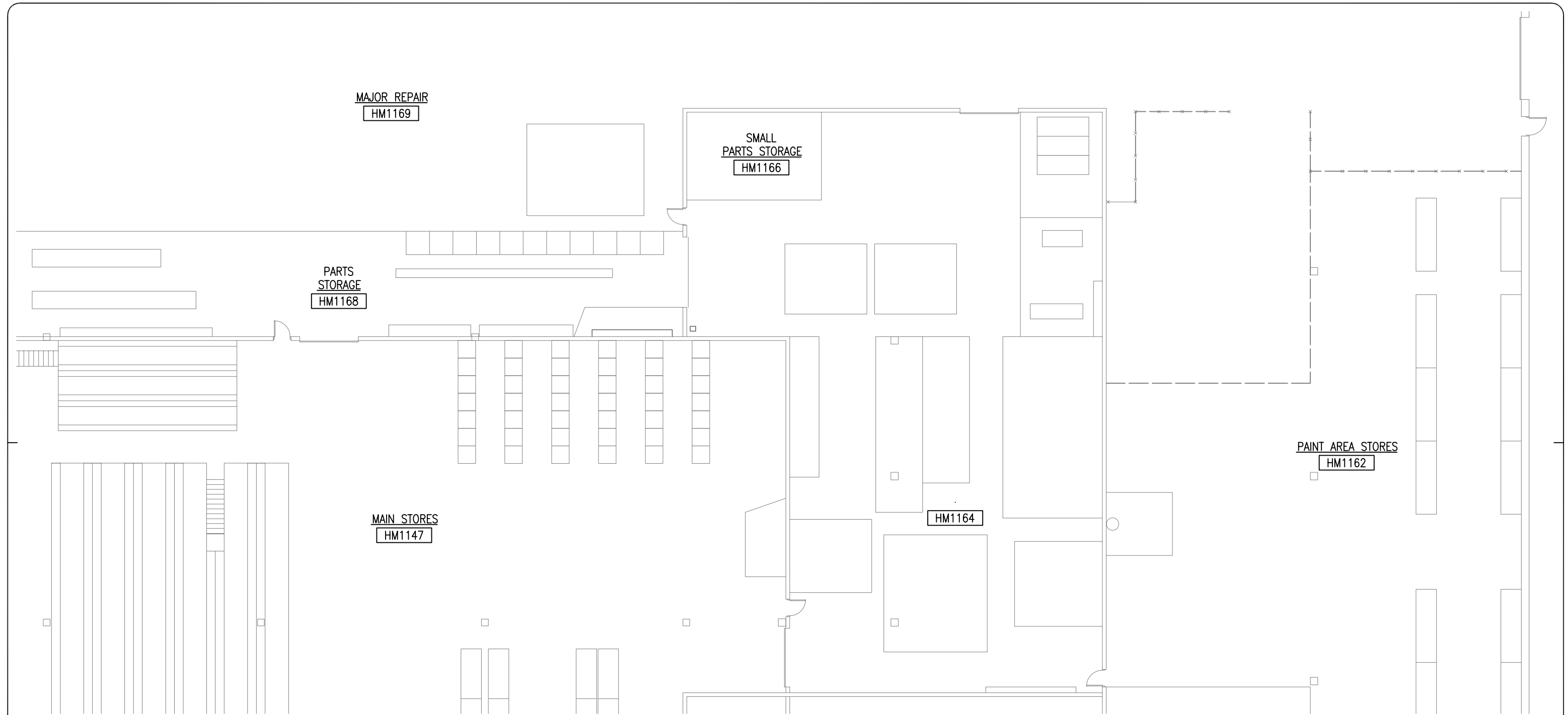


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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

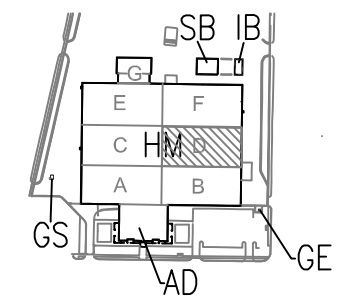
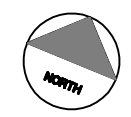
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URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1C
CK. JPF	



FIRST FLOOR PLAN AREA "D"



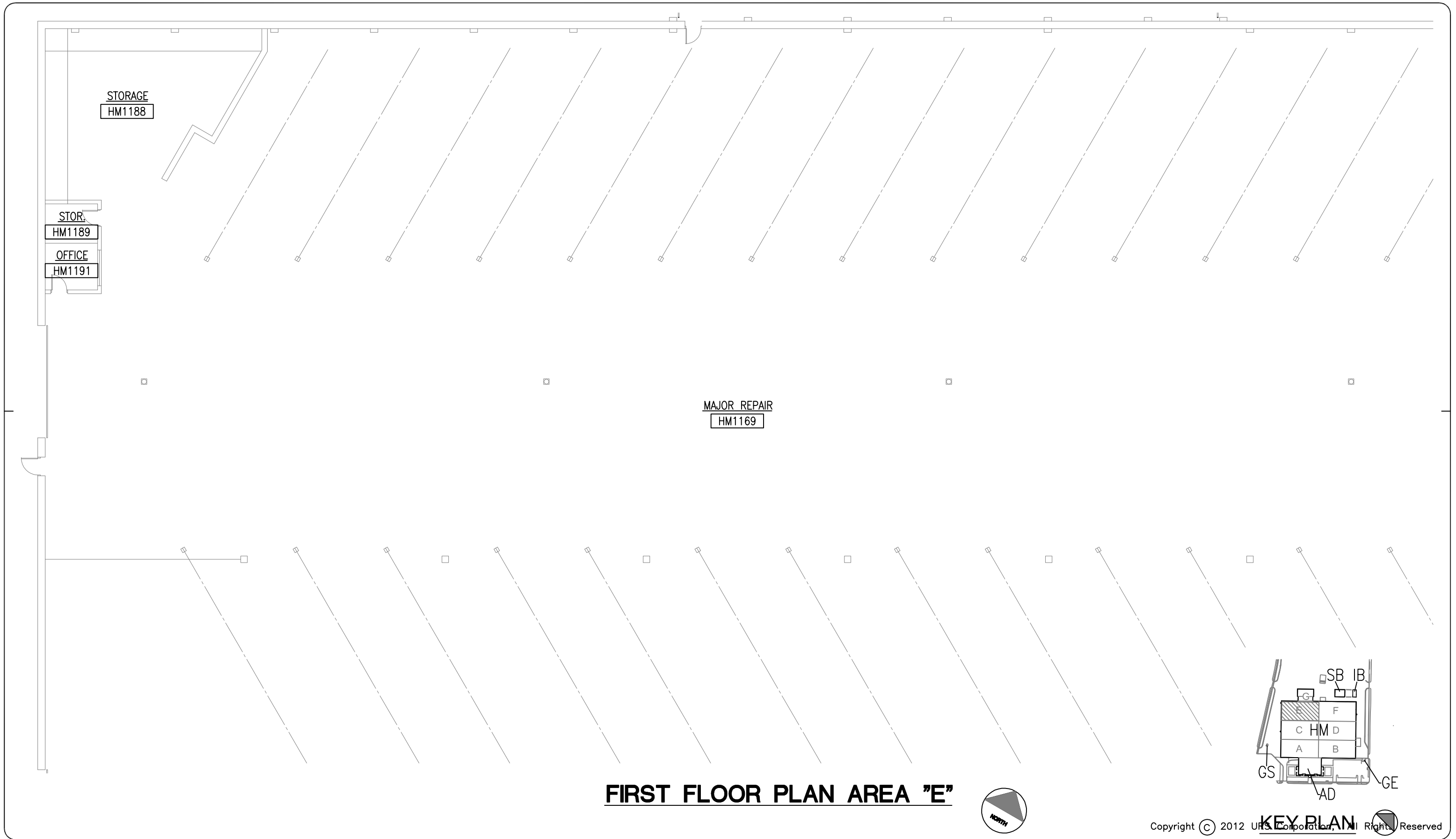
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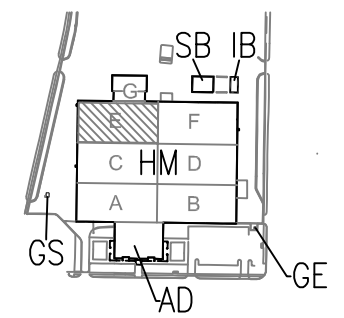
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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1D
CK. JPF	



FIRST FLOOR PLAN AREA "E"



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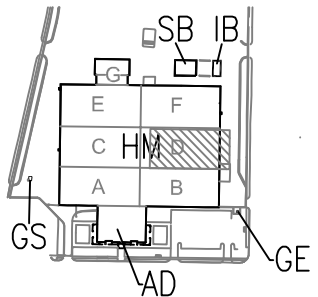
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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1E
CK. JPF	



FIRST FLOOR PLAN AREA "F"



KEY PLAN



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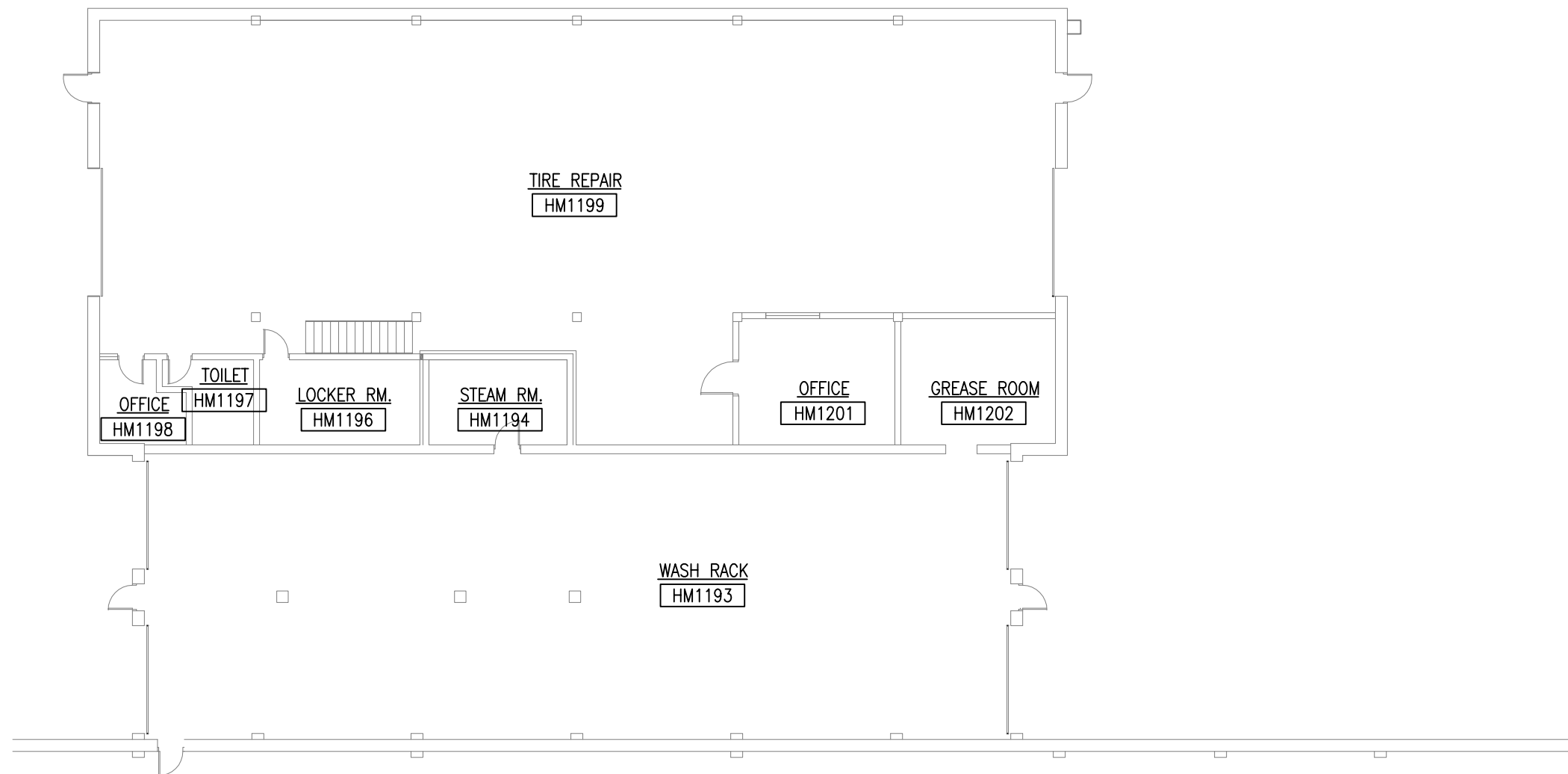


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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

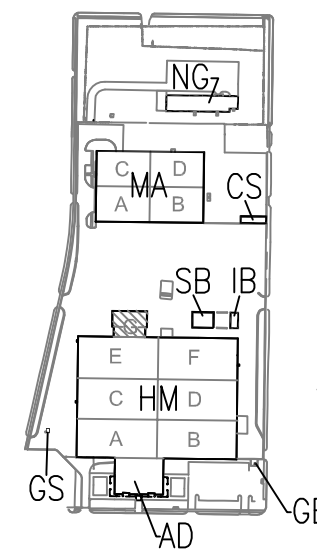
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HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.1F
CK. JPF	



FIRST FLOOR PLAN AREA "G"



KEY PLAN



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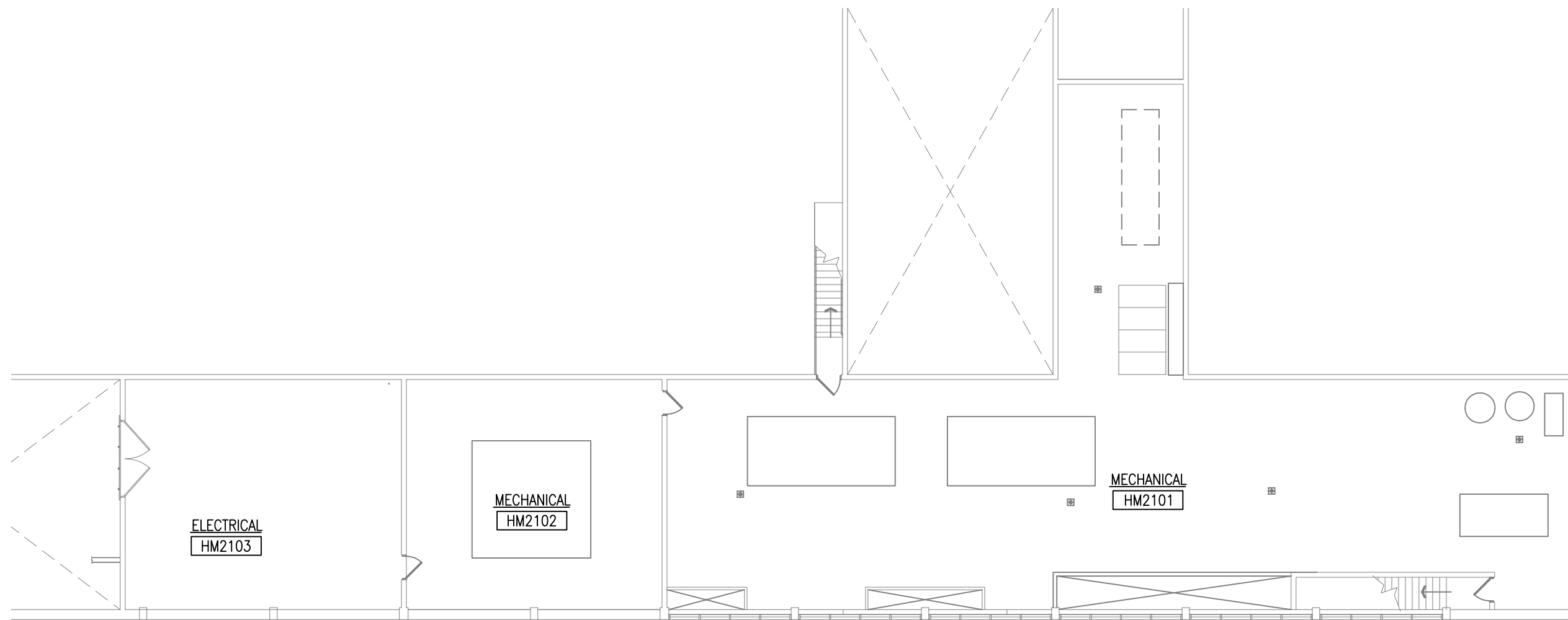


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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

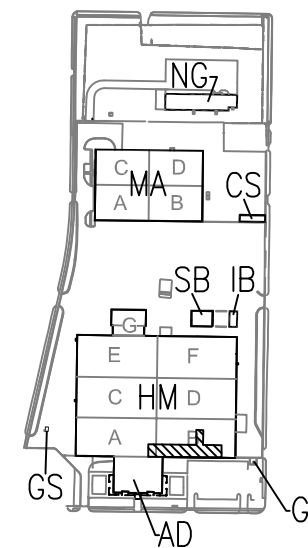
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HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A2.1G



SECOND FLOOR PLAN AREA "H"



KEY PLAN

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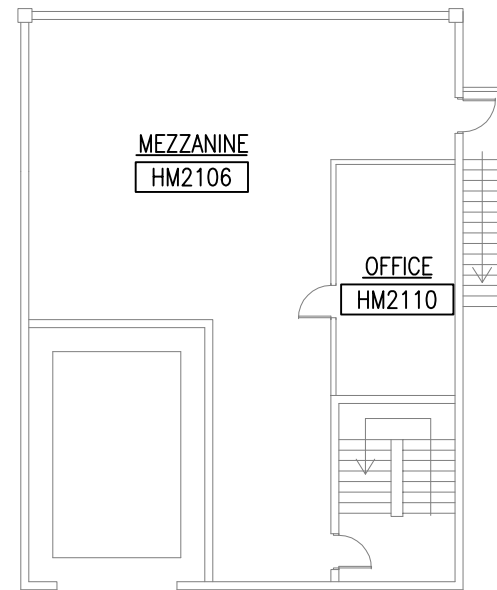


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

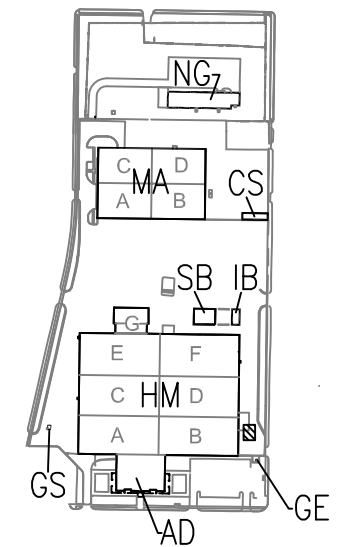
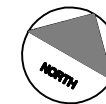
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URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A2.2H



SECOND FLOOR PLAN AREA "J"



KEY PLAN



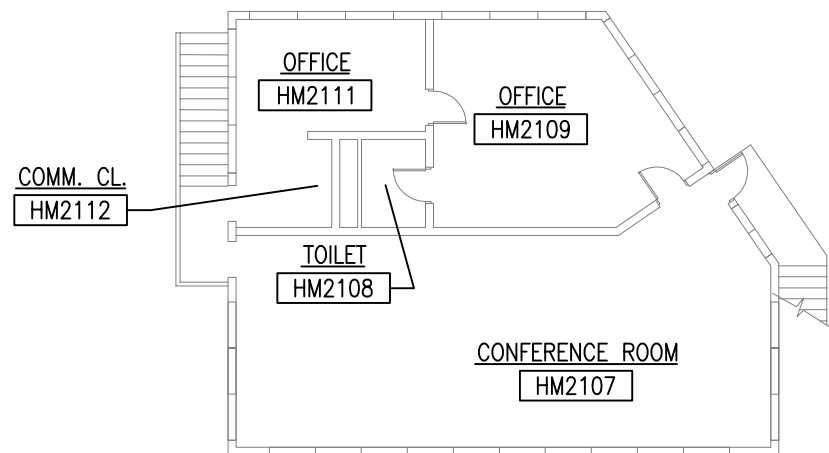
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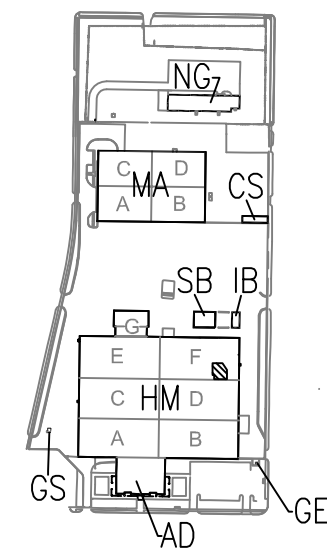
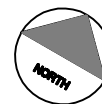
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.2J
CK. JPF	



SECOND FLOOR PLAN AREA "K"



KEY PLAN



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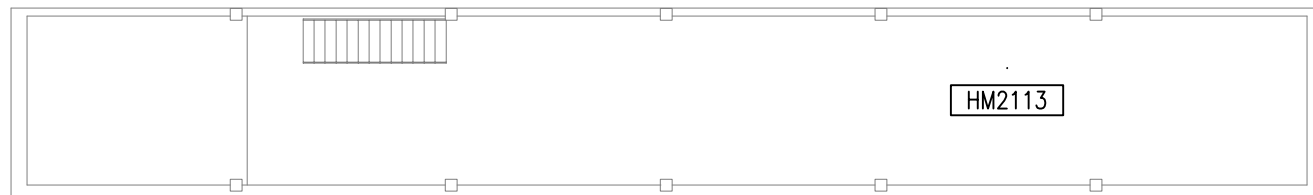


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 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

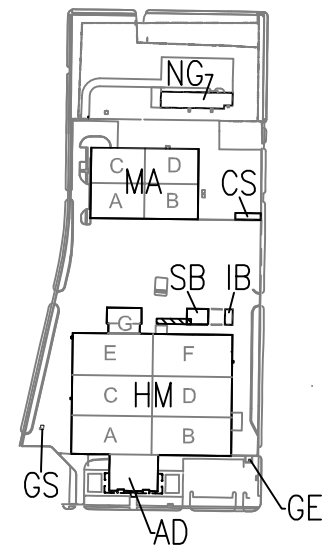
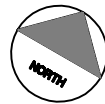
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HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A2.2K



SECOND FLOOR PLAN AREA "L"



KEY PLAN



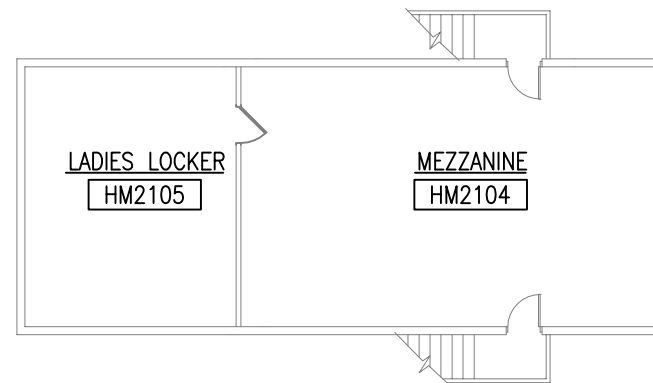
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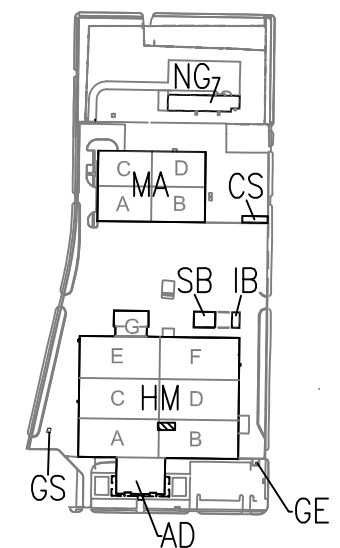
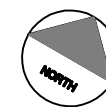
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
HEAVY MAINT. BLDG. (HM) - ARCH.
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.2L
CK. JPF	



SECOND FLOOR PLAN AREA "M"



KEY PLAN



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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

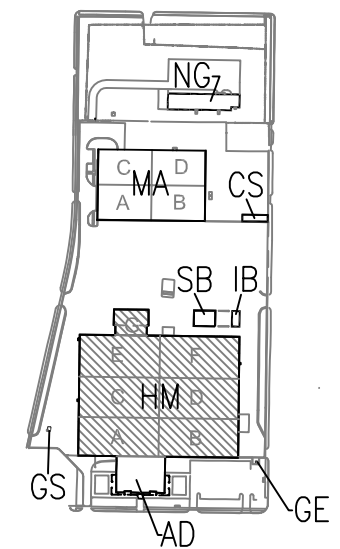
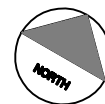
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HEAVY MAINT. BLDG. (HM) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A2.2M
CK. JPF	



ROOF PLAN
NO SCALE



KEY PLAN



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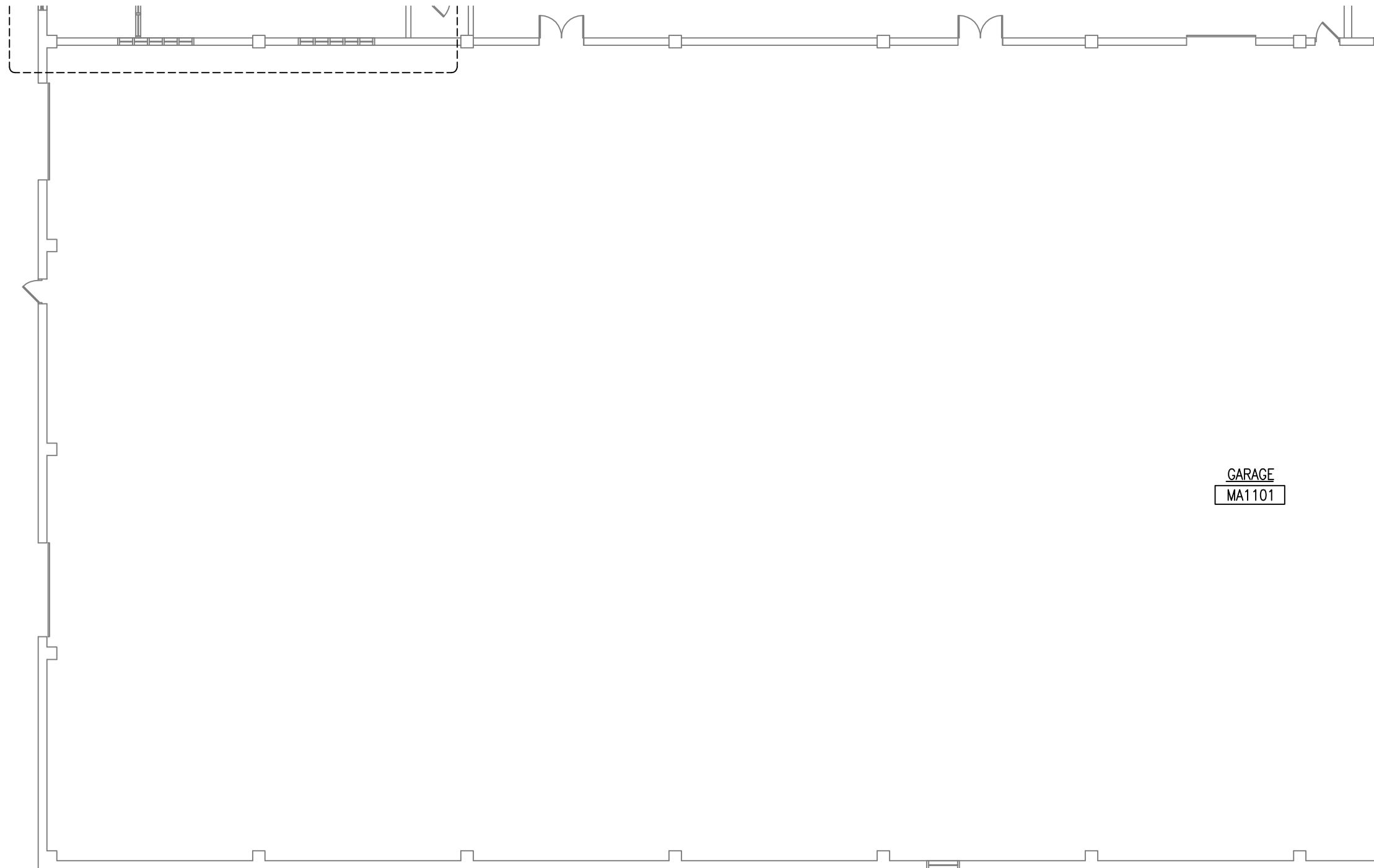


DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
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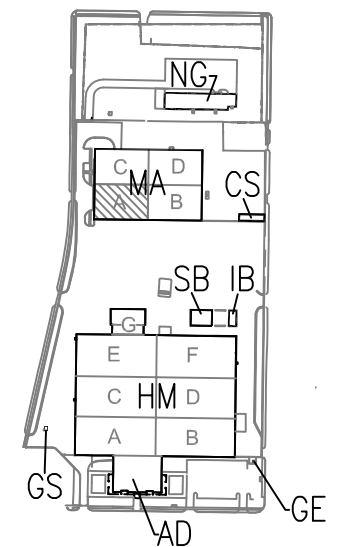
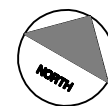
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A23



GARAGE
MA1101

FIRST FLOOR PLAN AREA "A"



KEY PLAN



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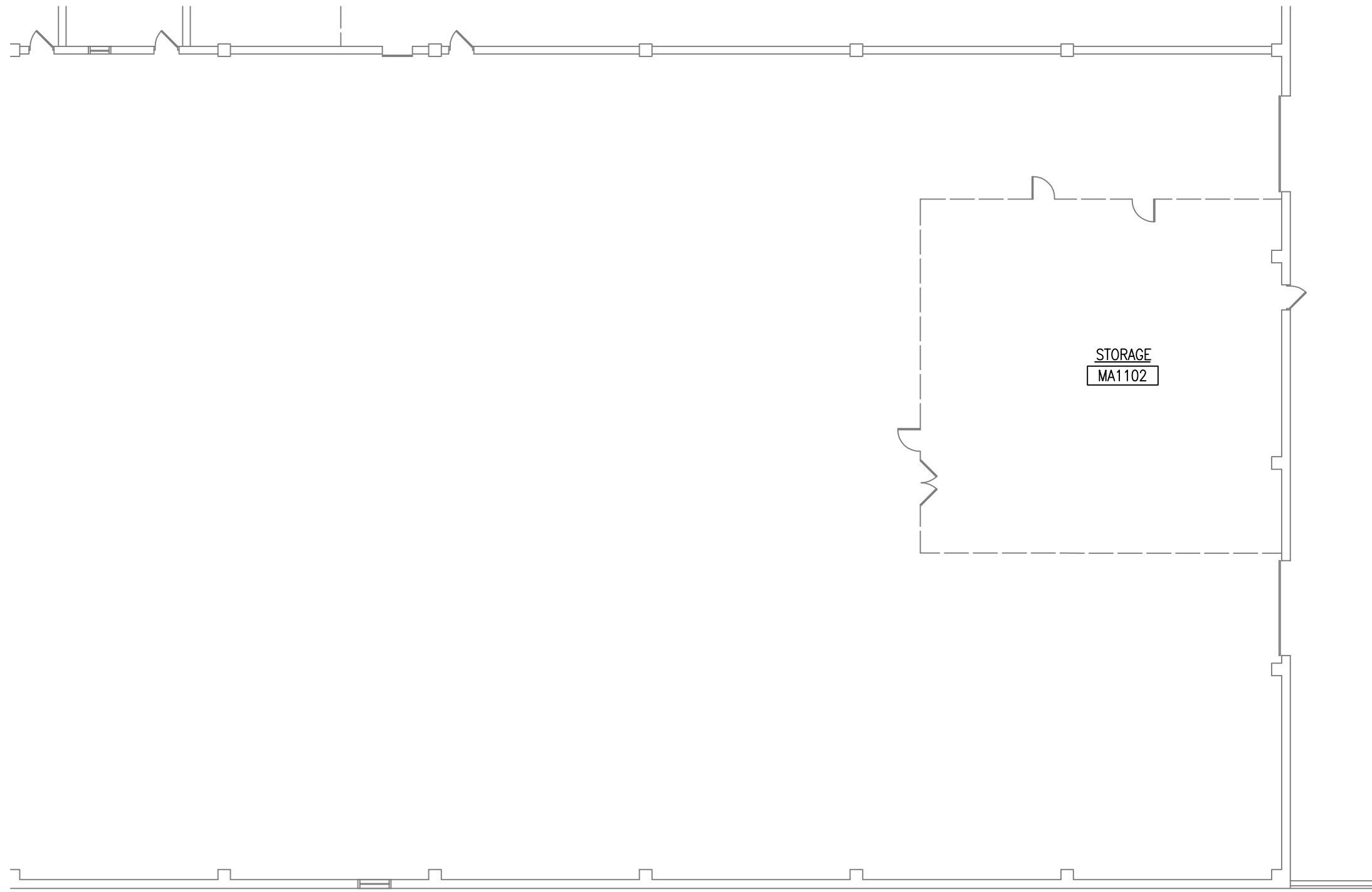


DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

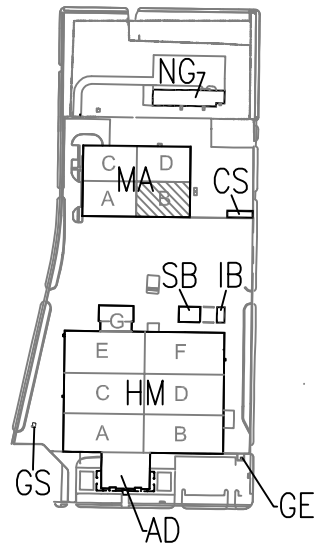
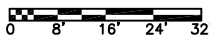
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FACILITY MAINT. BLDG. (MA) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A3.1A
CK. JPF	



FIRST FLOOR PLAN AREA "B"



KEY PLAN



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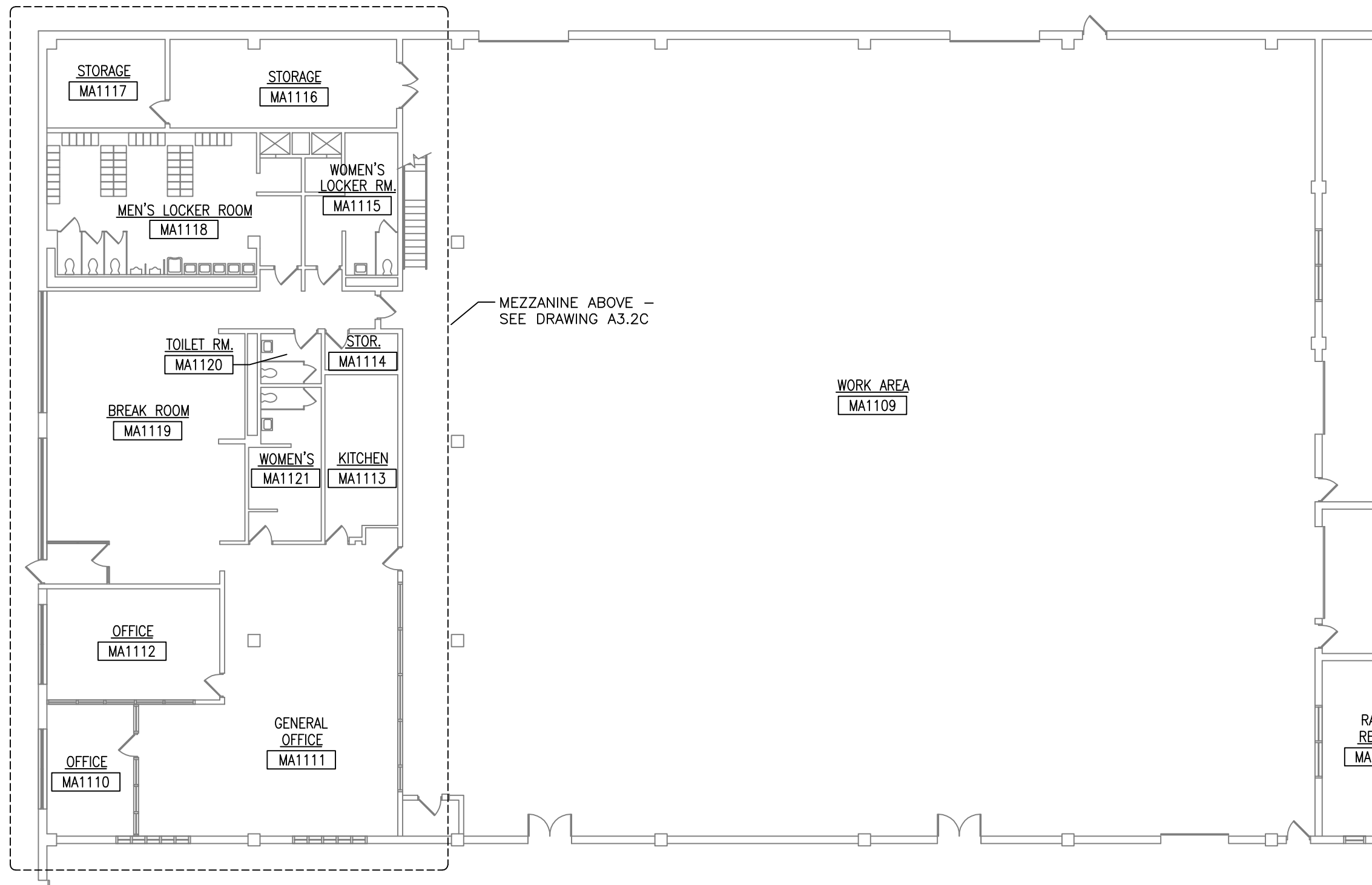


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

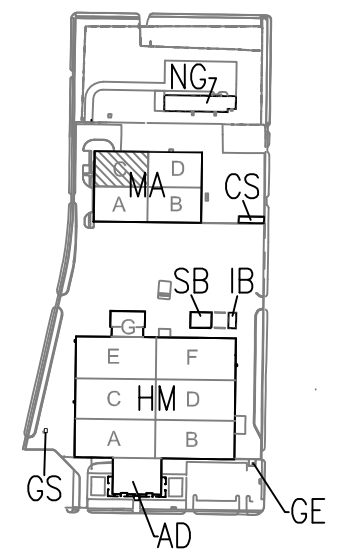
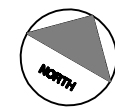
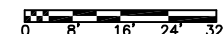
TITLE
FACILITY MAINT. BLDG. (MA) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A3.1B
CK. JPF	



FIRST FLOOR PLAN AREA "C"



KEY PLAN

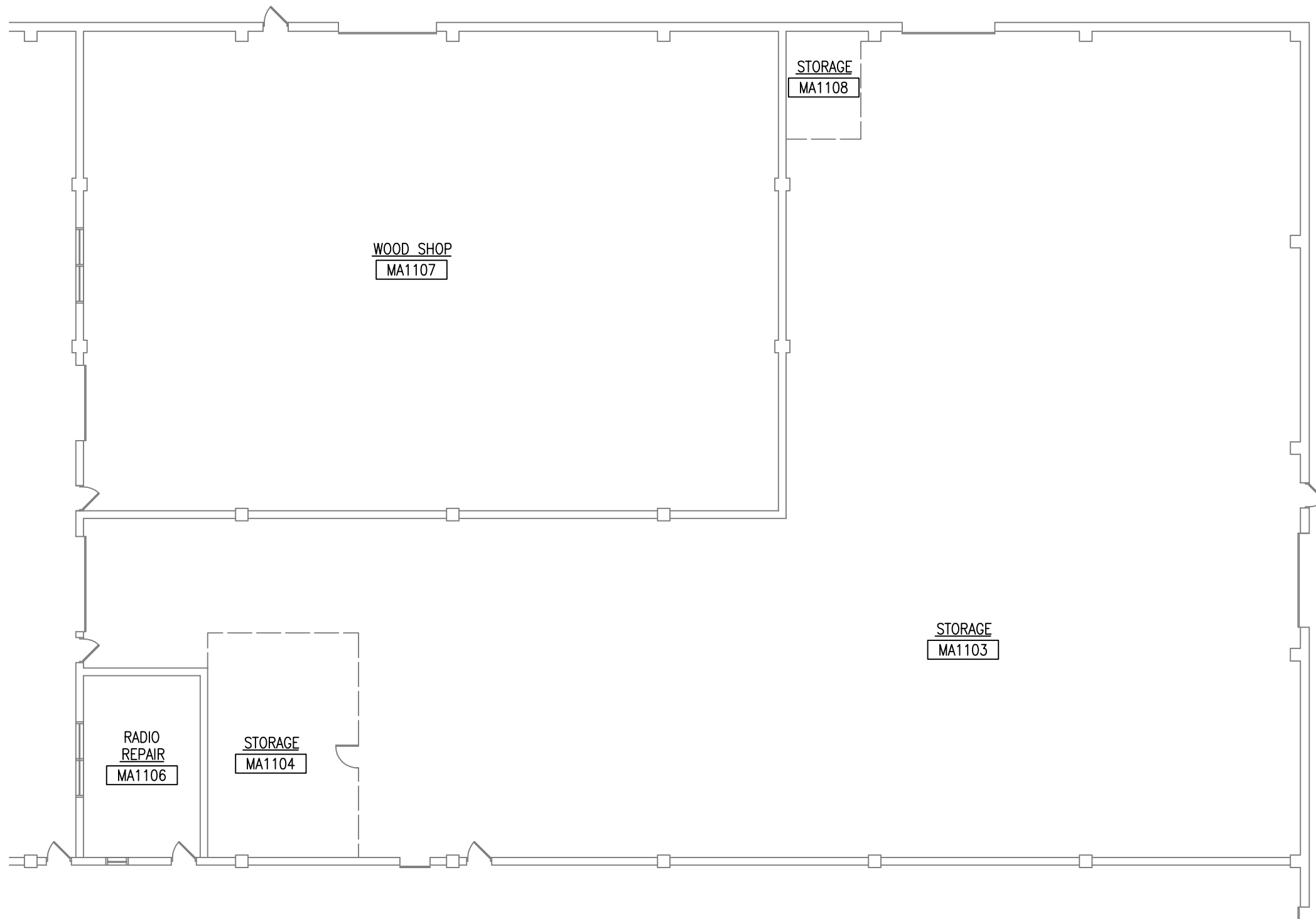
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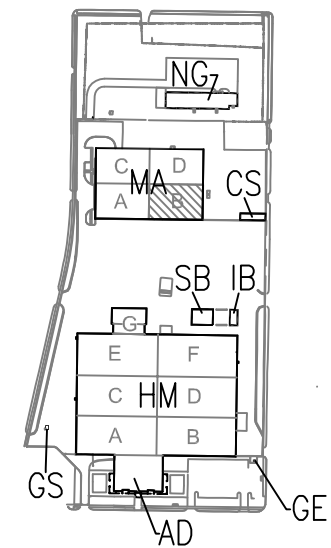
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
FACILITY MAINT. BLDG. (MA) - ARCH.
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A3.1C
CK. JPF	



FIRST FLOOR PLAN AREA "D"



KEY PLAN



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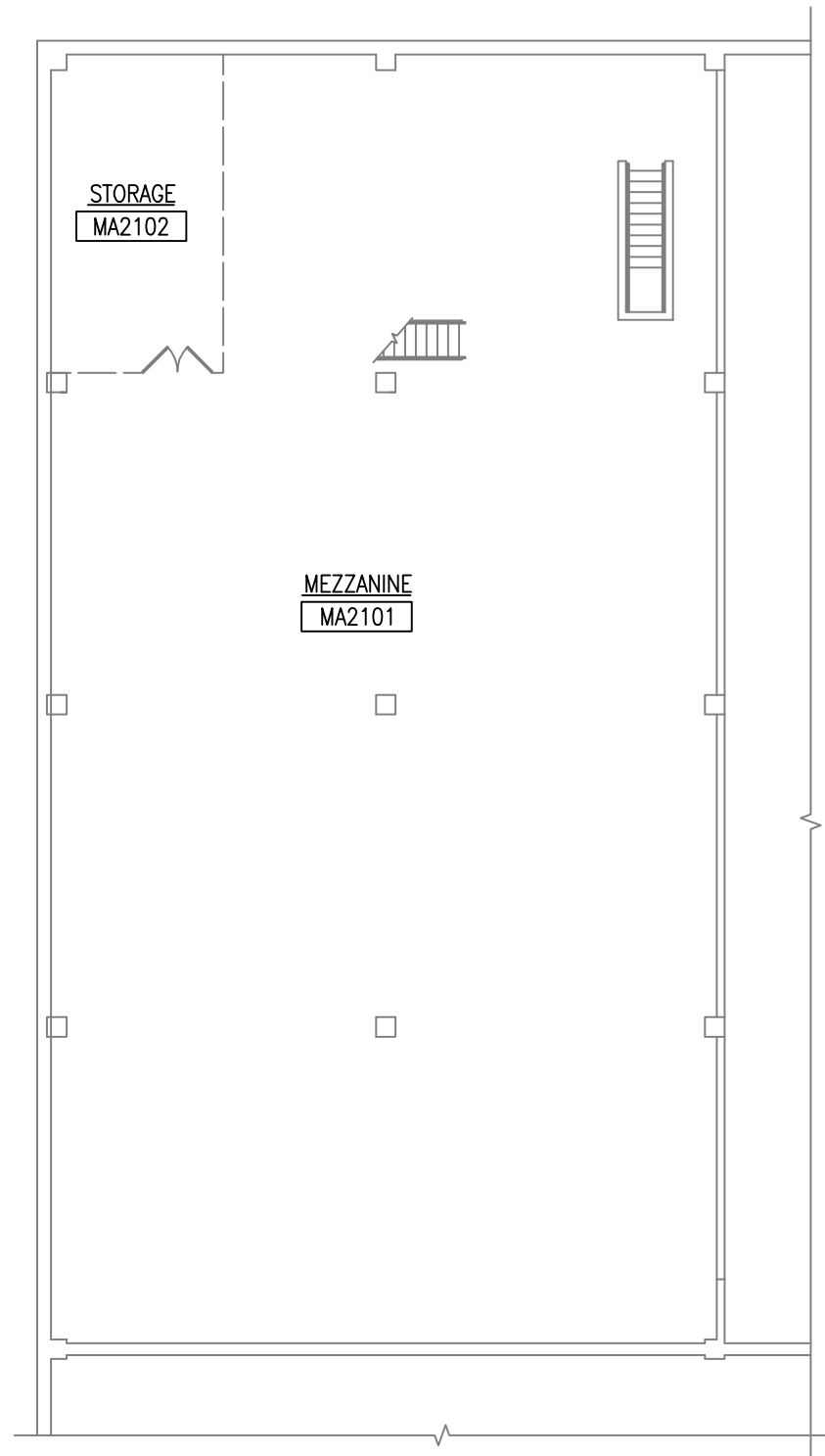


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

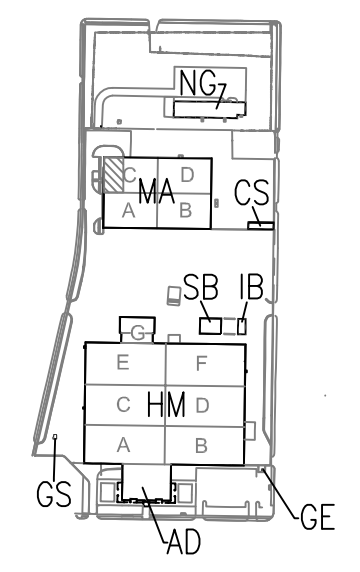
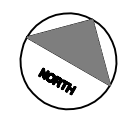
TITLE
FACILITY MAINT. BLDG. (MA) - ARCH.

URS URS CORPORATION, DETROIT, MI., 313-961-9797

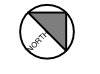
DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A3.1D
CK. JPF	



MEZZANINE PLAN



KEY PLAN



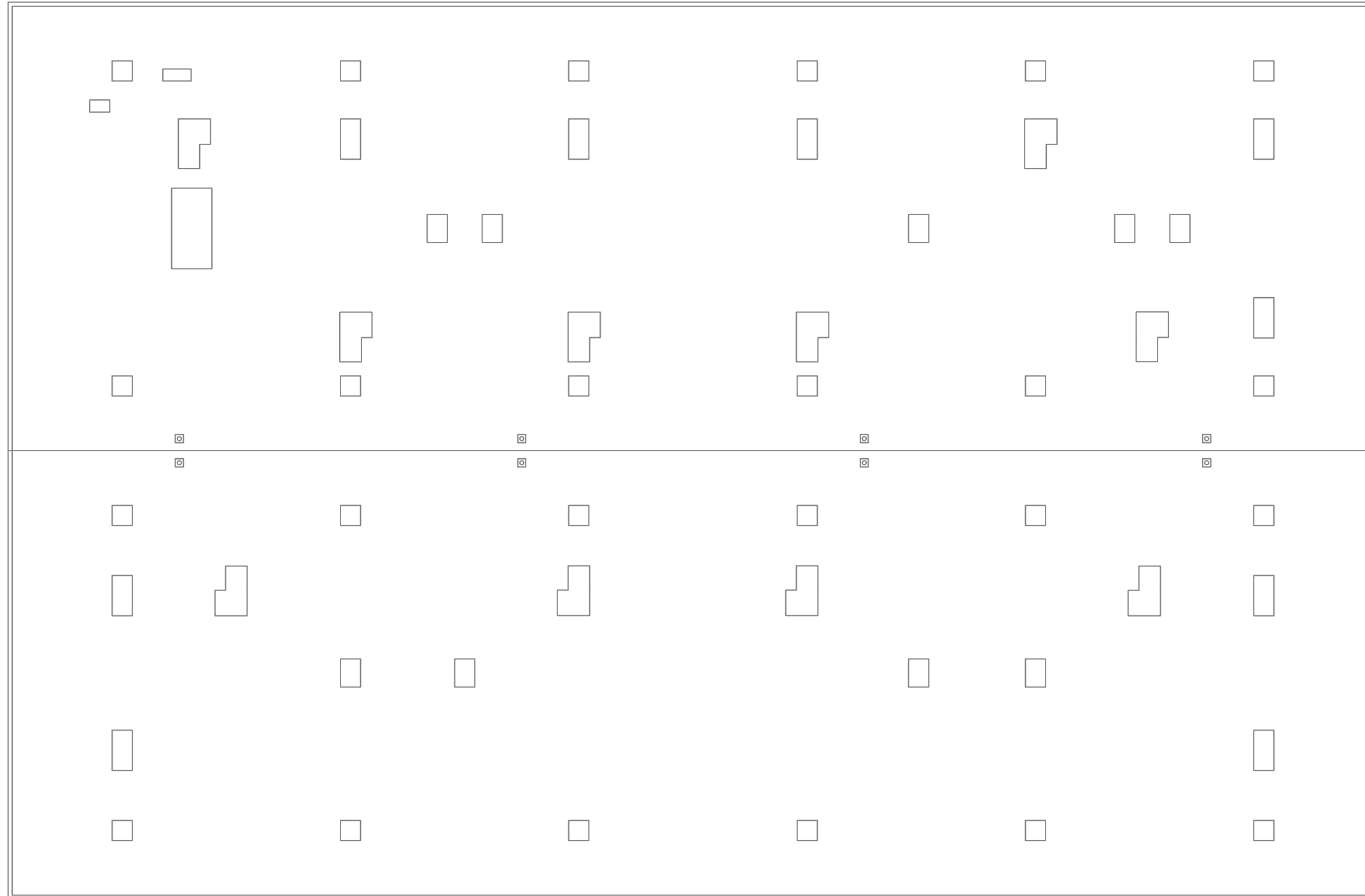
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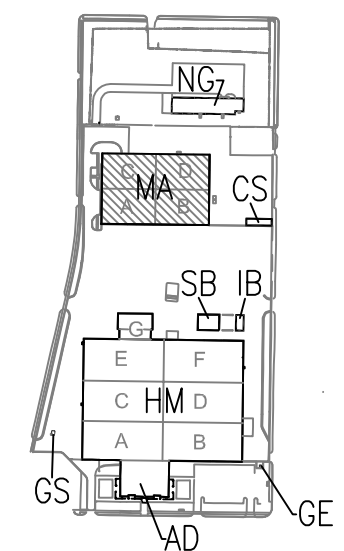
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
FACILITY MAINT. BLDG. (MA) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A3.2C
CK. JPF	



ROOF PLAN
NO SCALE



KEY PLAN

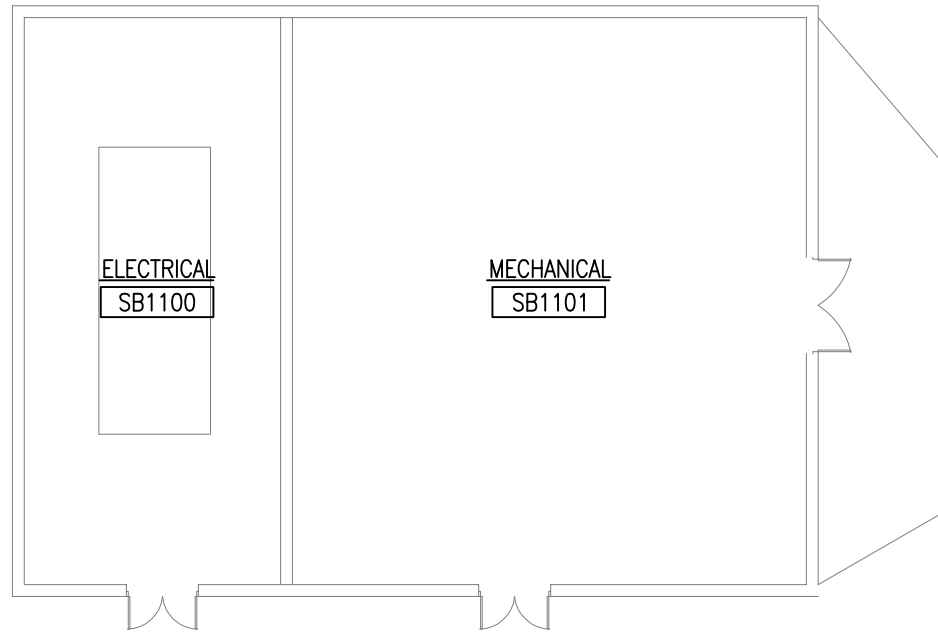
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DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

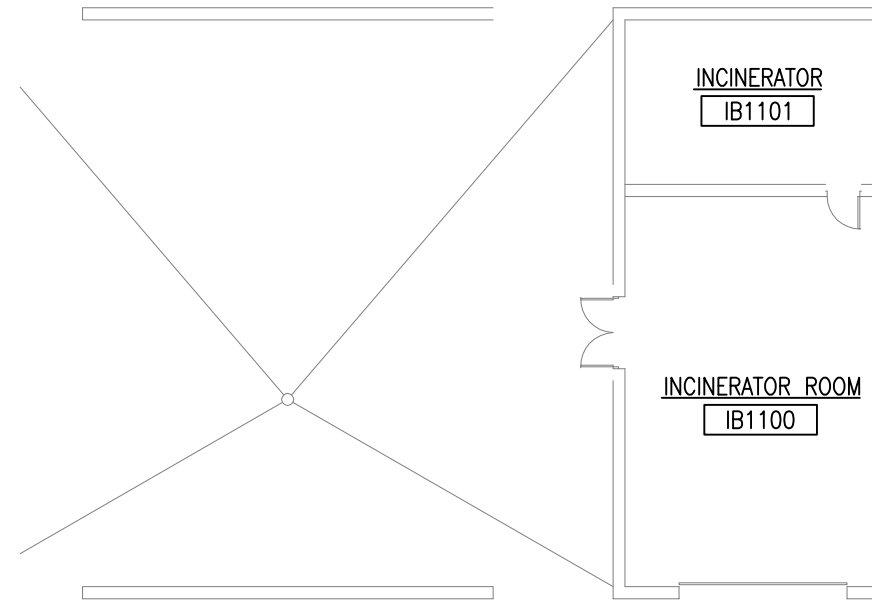
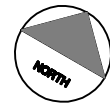
TITLE
FACILITY MAINT. BLDG. (MA) - ARCH.
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO.
CK. JPF	A3.3



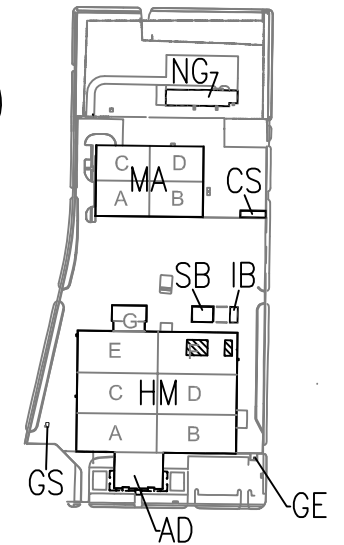
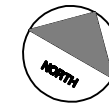
FIRST FLOOR PLAN - SERVICE BUILDING

0 8' 16' 24' 32'



FIRST FLOOR PLAN - INCINERATOR BLDG.

0 8' 16' 24' 32'



KEY PLAN



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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE

SERVICE (SB) & INCINERATOR (IB) BUILDINGS



URS CORPORATION, DETROIT, MI., 313-961-9797

DATE

12-27-11

DR.

RGD

CK.

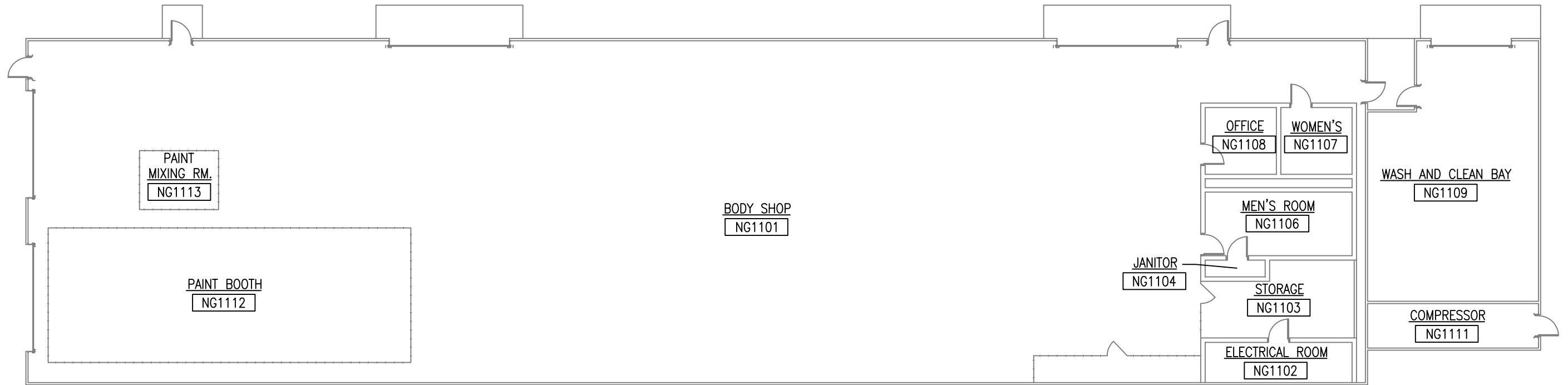
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JOB NO.

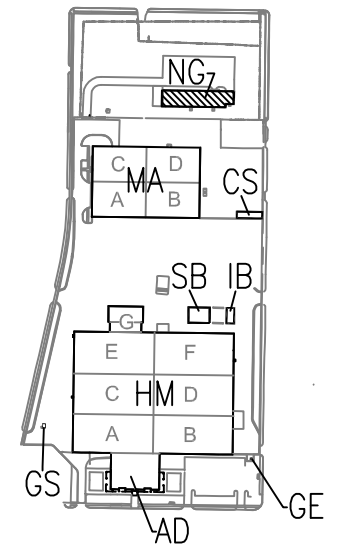
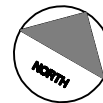
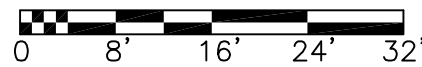
31810754

SKETCH NO.

A4.1



FIRST FLOOR PLAN



KEY PLAN



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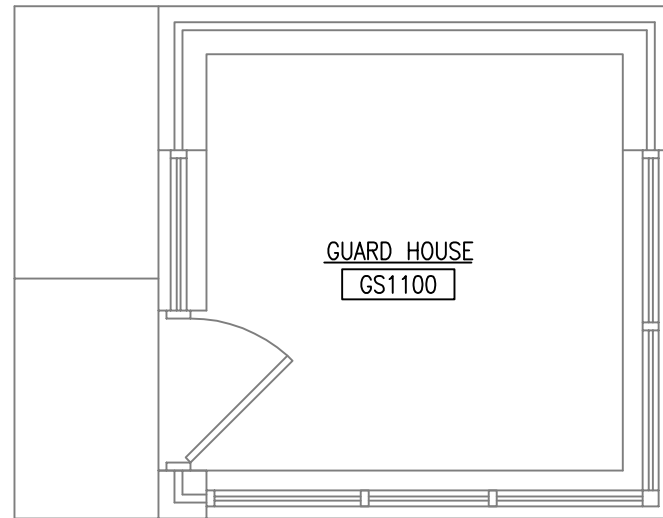


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

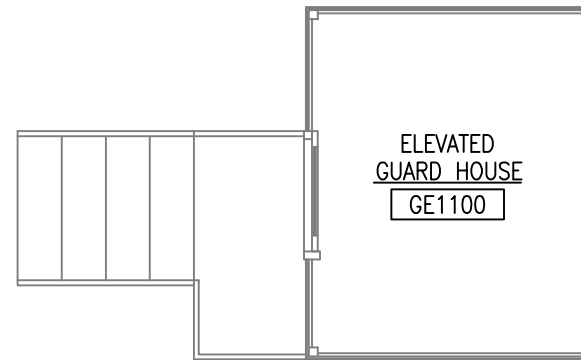
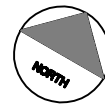
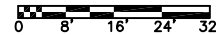
TITLE
CNG BUILDING

URS URS CORPORATION, DETROIT, MI., 313-961-9797

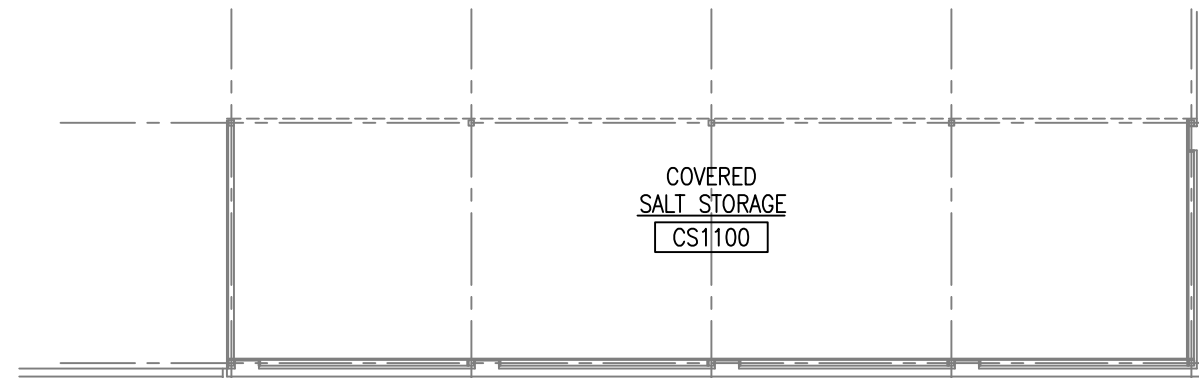
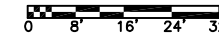
DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A5.1
CK. JPF	



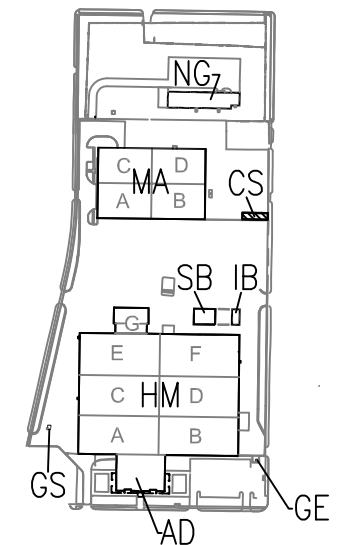
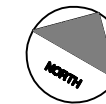
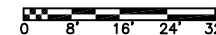
(GS) GUARD HOUSE PLAN



(GE) ELEVATED GUARD HOUSE PLAN



(CS) COVERED SALT STORAGE PLAN



KEY PLAN



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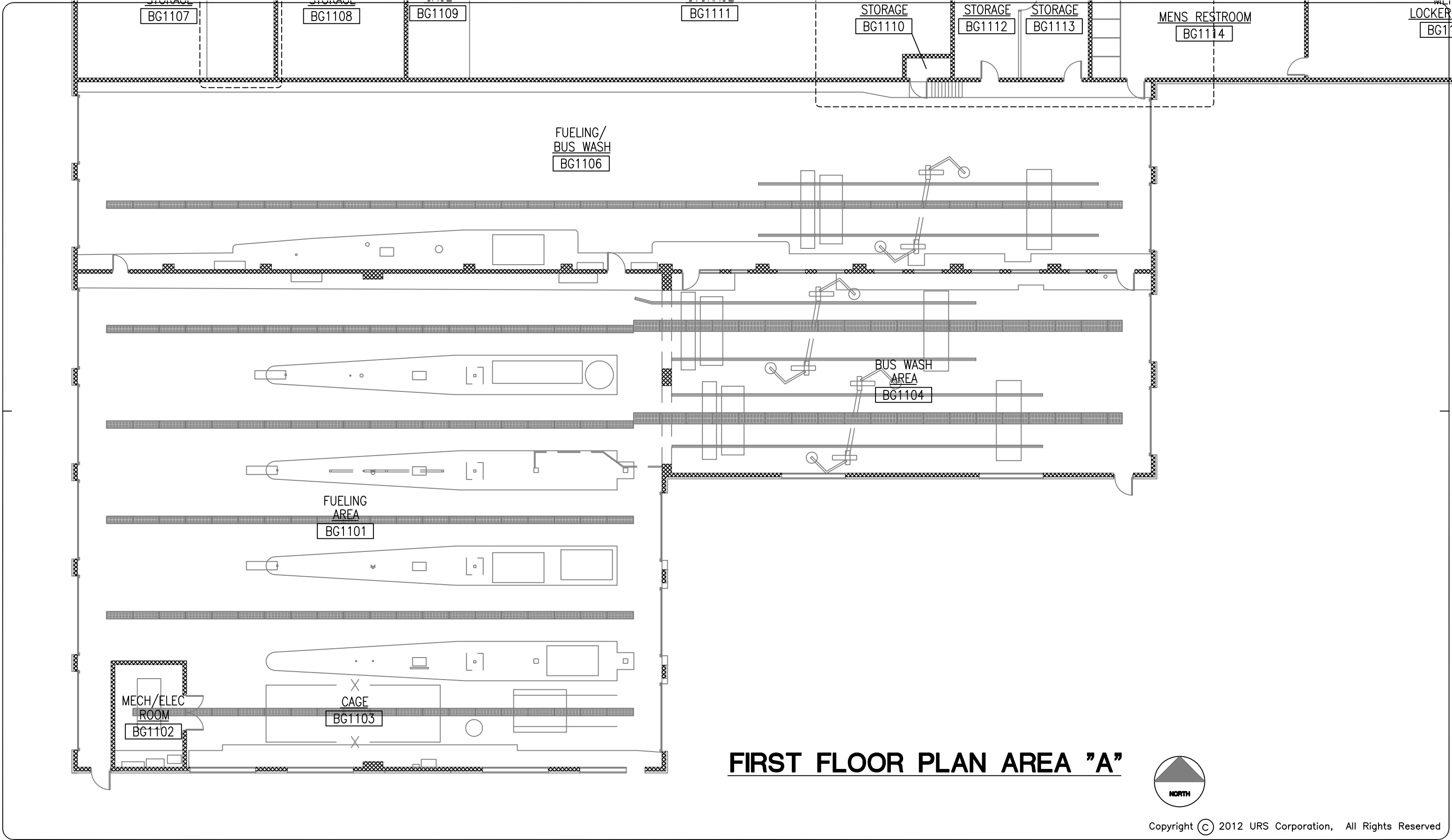


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - CENTRAL FACILITY DETROIT, MI

TITLE
MISC. BUILDINGS CS, GS & GE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 12-27-11	JOB NO. 31810754
DR. RGD	SKETCH NO. A6.1
CK. JPF	



FIRST FLOOR PLAN AREA "A"



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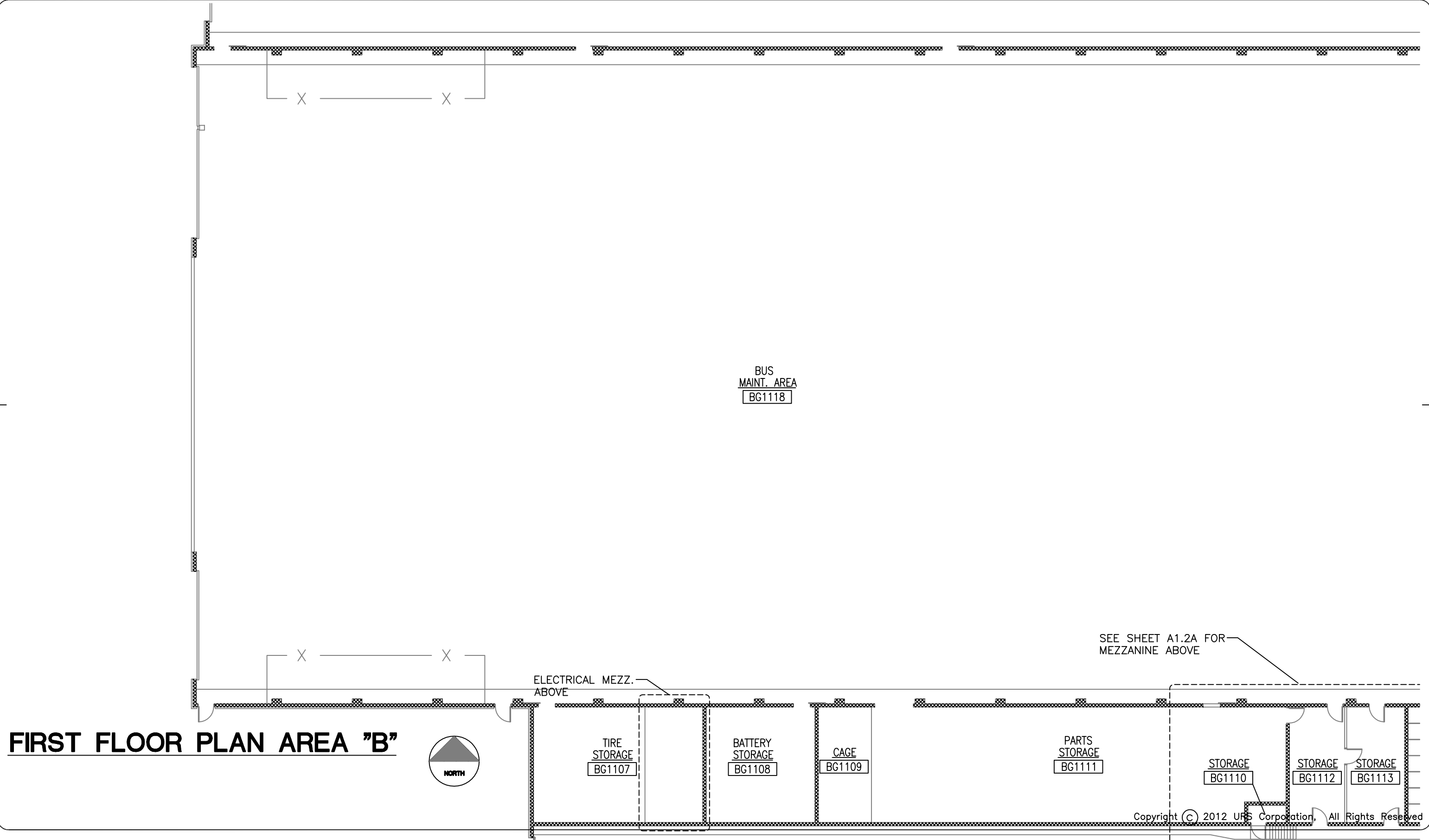


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY
 DETROIT, MI

TITLE
BUS GARAGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1A



FIRST FLOOR PLAN AREA "B"



SEE SHEET A1.2A FOR MEZZANINE ABOVE

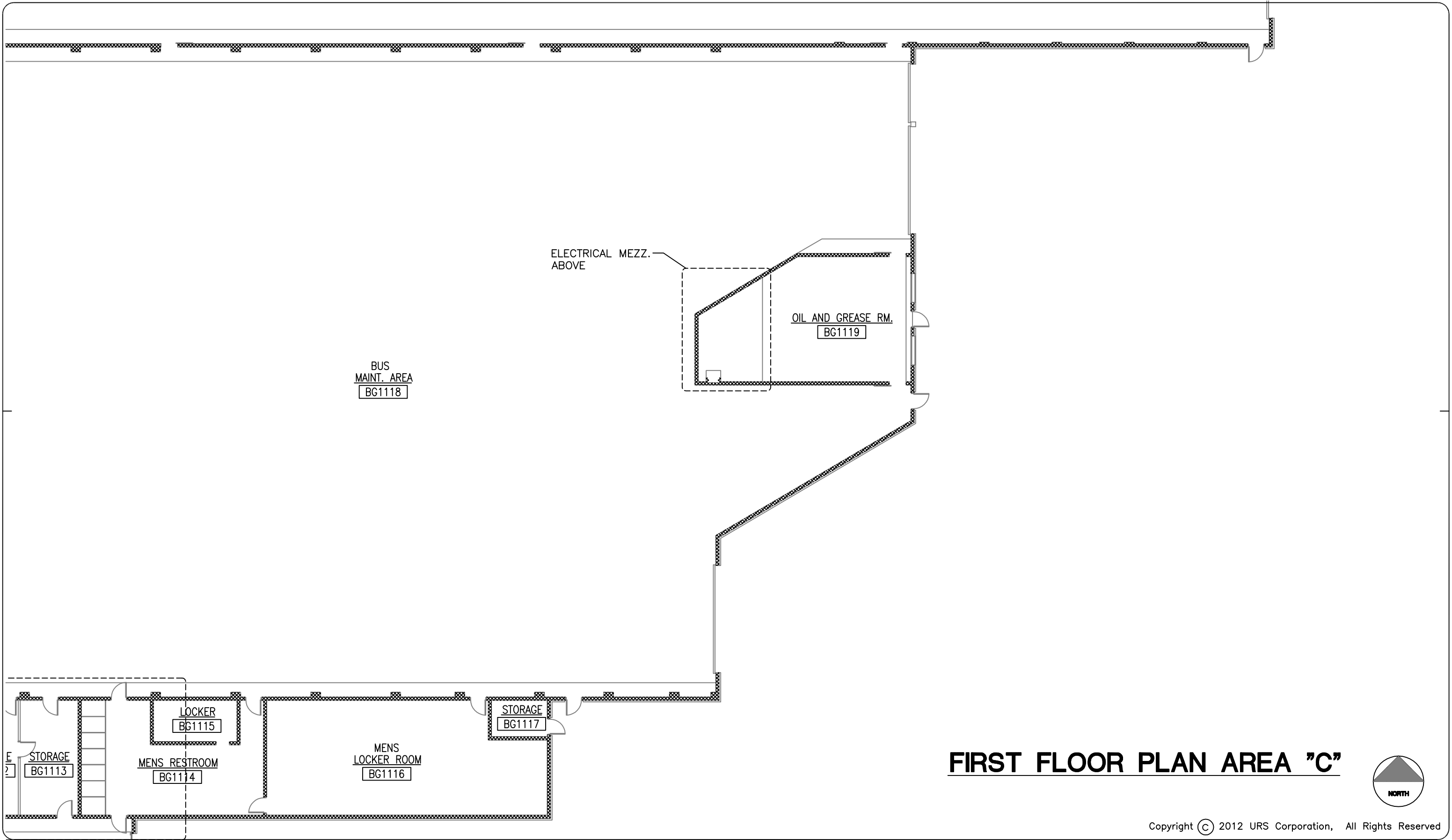
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY
 DETROIT, MI

TITLE
BUS GARAGE
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1B



FIRST FLOOR PLAN AREA "C"



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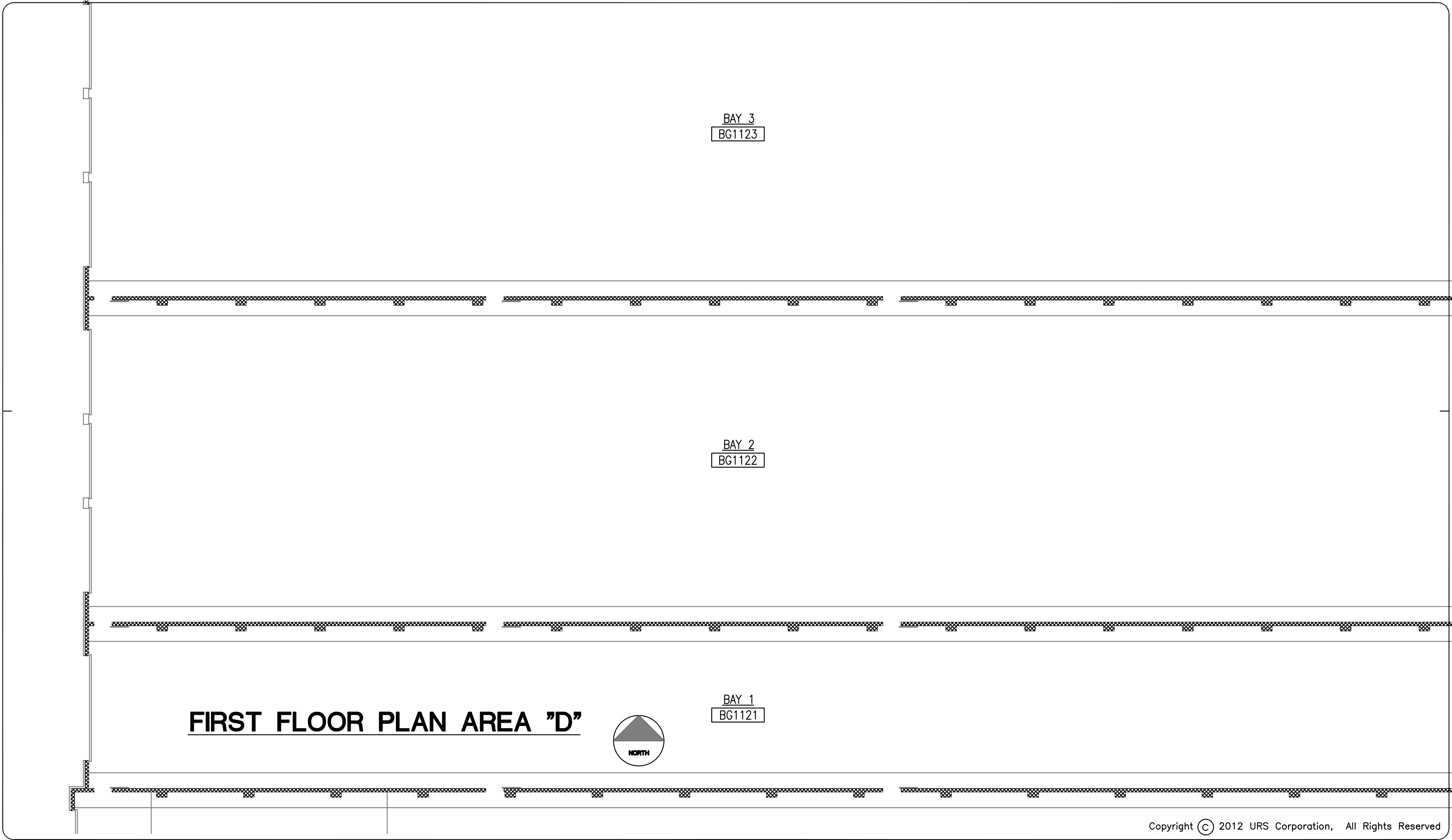


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY
 DETROIT, MI

TITLE
BUS GARAGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1C



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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
BUS GARAGE
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

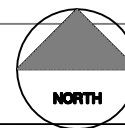
DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1D

BAY 3
BG1123

BAY 2
BG1122

BAY 1
BG1121

FIRST FLOOR PLAN AREA "E"



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DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - GILBERT FACILITY
DETROIT, MI

TITLE

BUS GARAGE



URS CORPORATION, DETROIT, MI., 313-961-9797

DATE
07-11-06

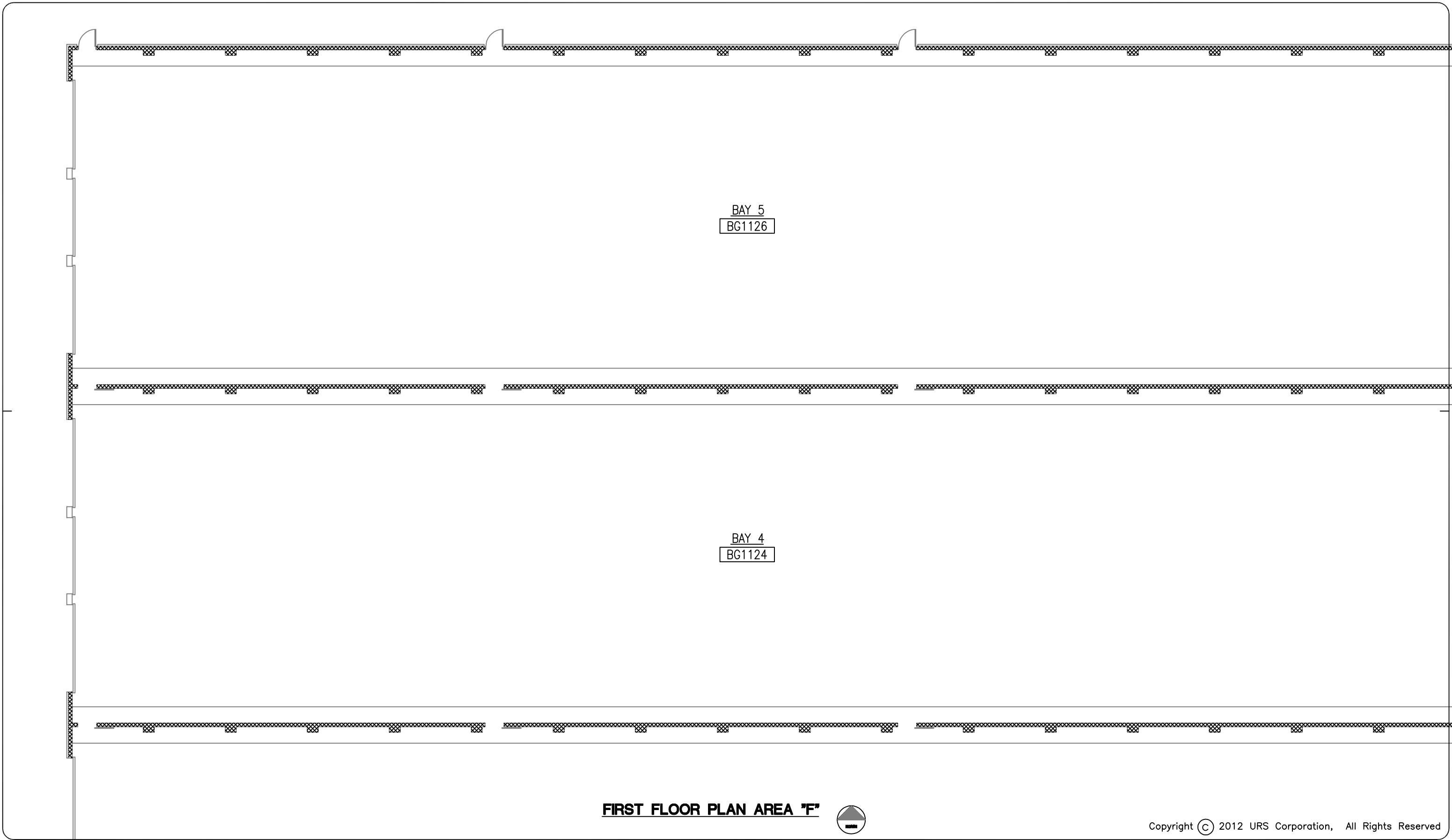
DR.

CK.

JOB NO. 31810035

SKETCH NO.

A1.1E



FIRST FLOOR PLAN AREA 'F'



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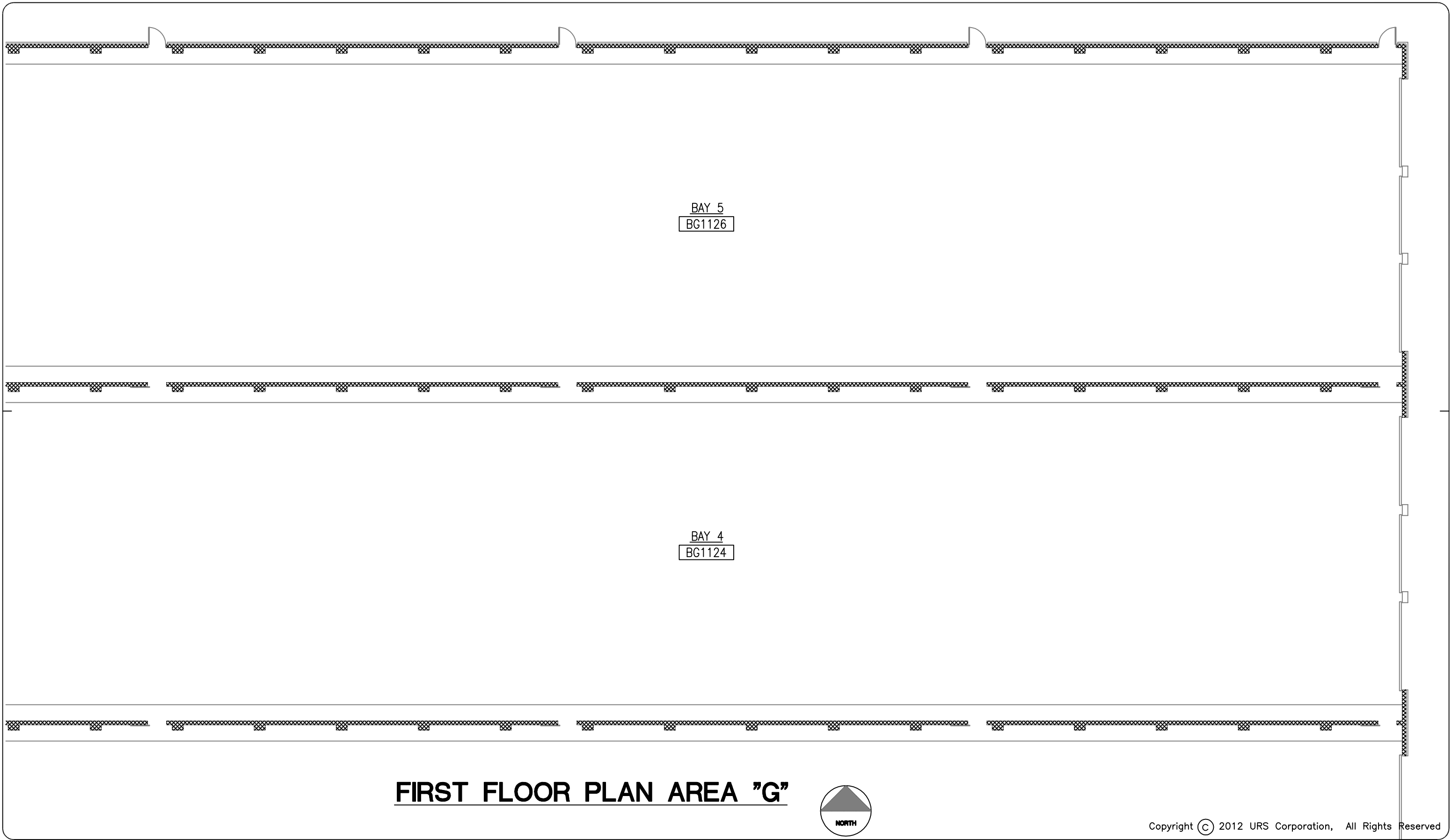


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
BUS GARAGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1F



BAY 5
BG1126

BAY 4
BG1124

FIRST FLOOR PLAN AREA "G"



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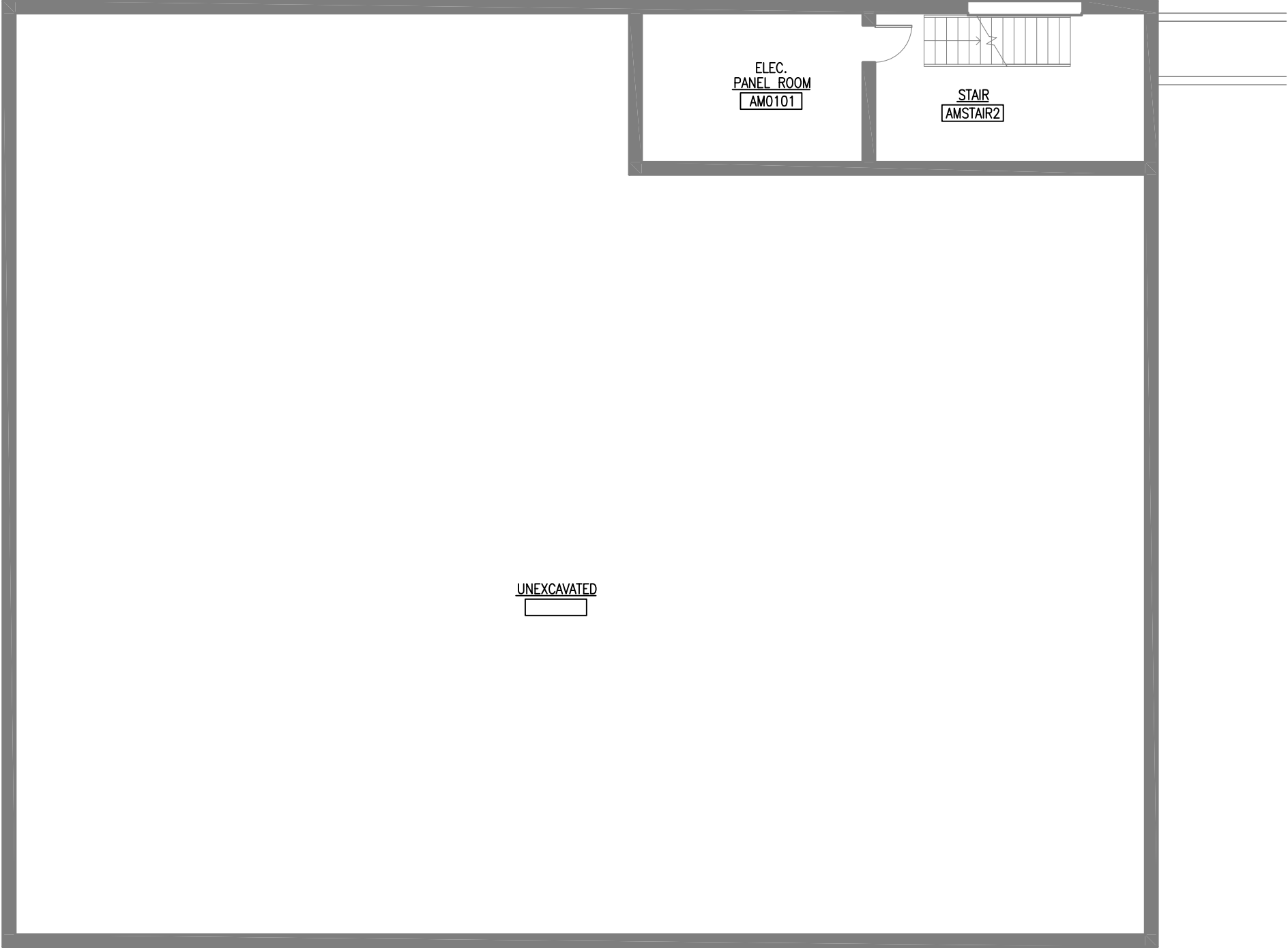


DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
BUS GARAGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1G



BASEMENT FLOOR PLAN AREA "A"



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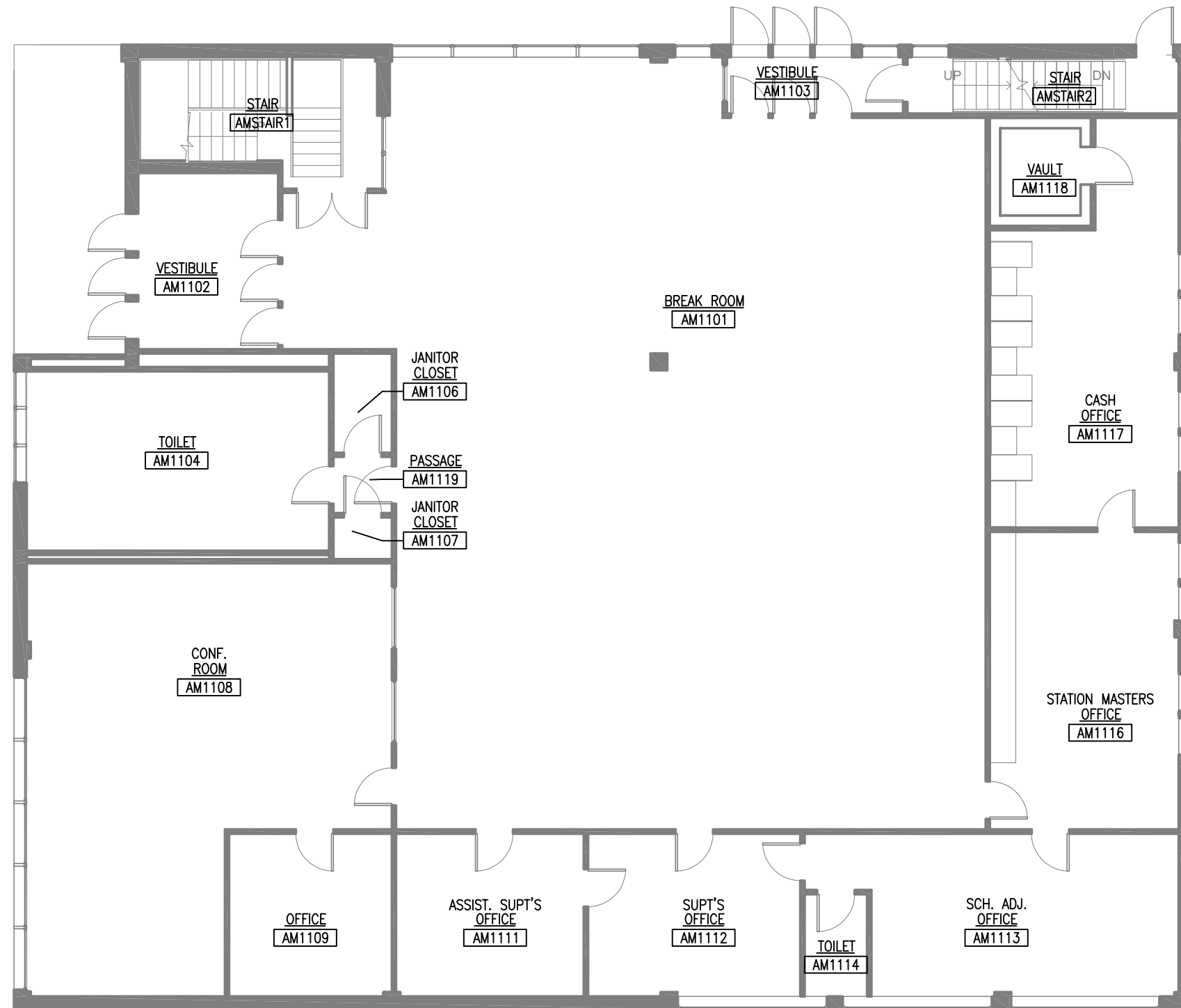


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
ADMINISTRATION BUILDING

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A2.0A



FIRST FLOOR PLAN AREA "A"



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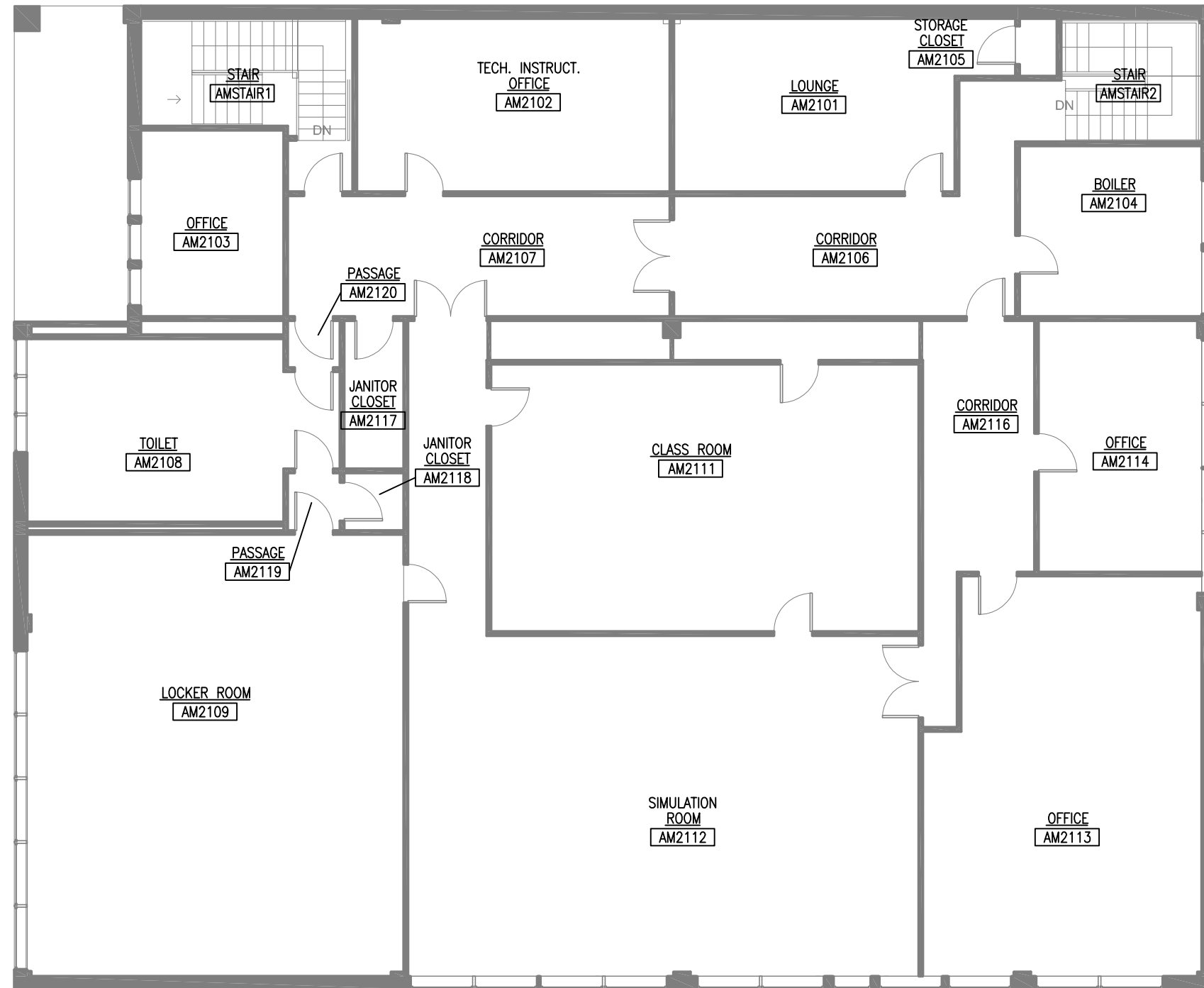


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY
 DETROIT, MI

TITLE
ADMINISTRATION BUILDING

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A2.1A



SECOND FLOOR PLAN AREA "A"



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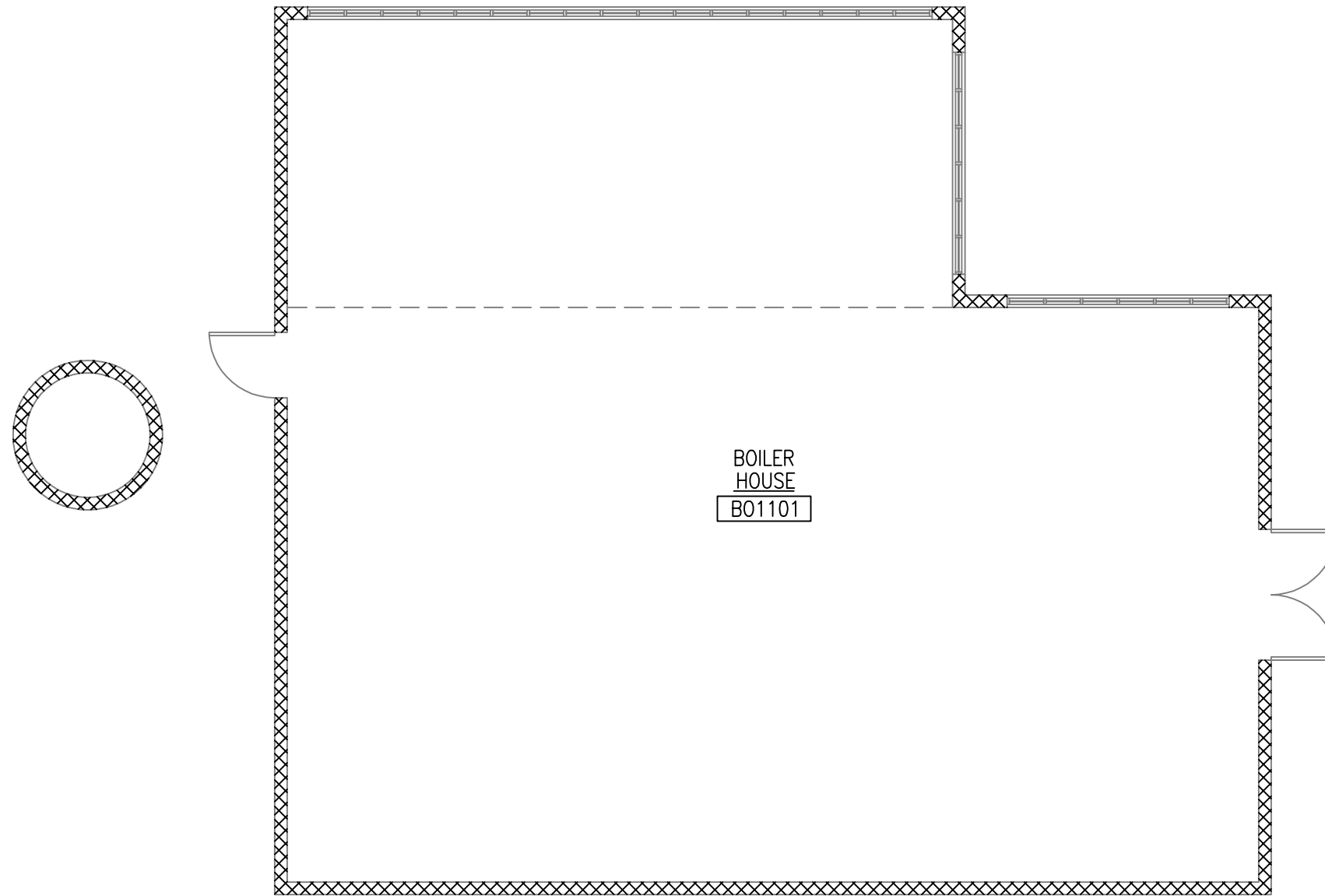


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY
 DETROIT, MI

TITLE
ADMINISTRATION BUILDING

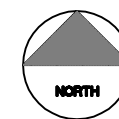
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A2.2A



BOILER
HOUSE
B01101

FIRST FLOOR PLAN AREA "A"



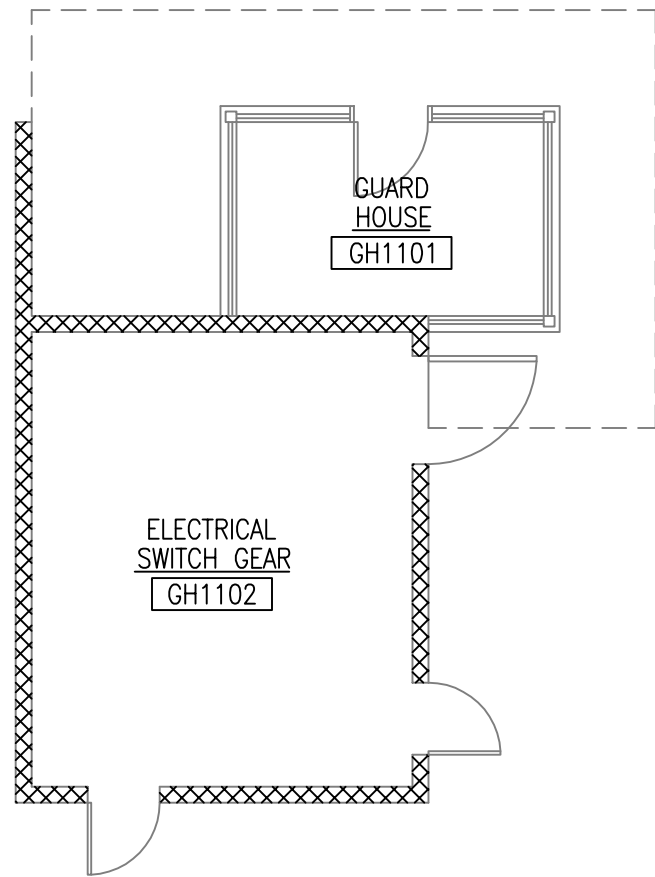
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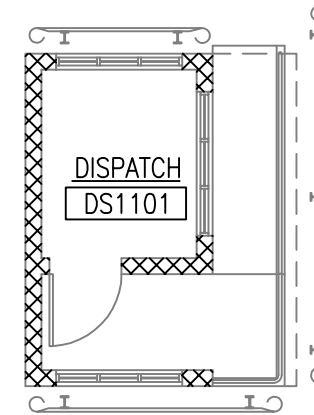
DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
BOILER HOUSE
URS URS CORPORATION, DETROIT, MI., 313-961-9797

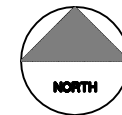
DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A3.1A



**FIRST FLOOR PLAN AREA "A"
GUARD HOUSE**



**FIRST FLOOR PLAN AREA "A"
DISPATCH**



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DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE

GUARD HOUSE AND DISPATCH



URS CORPORATION, DETROIT, MI., 313-961-9797

DATE
07-11-06

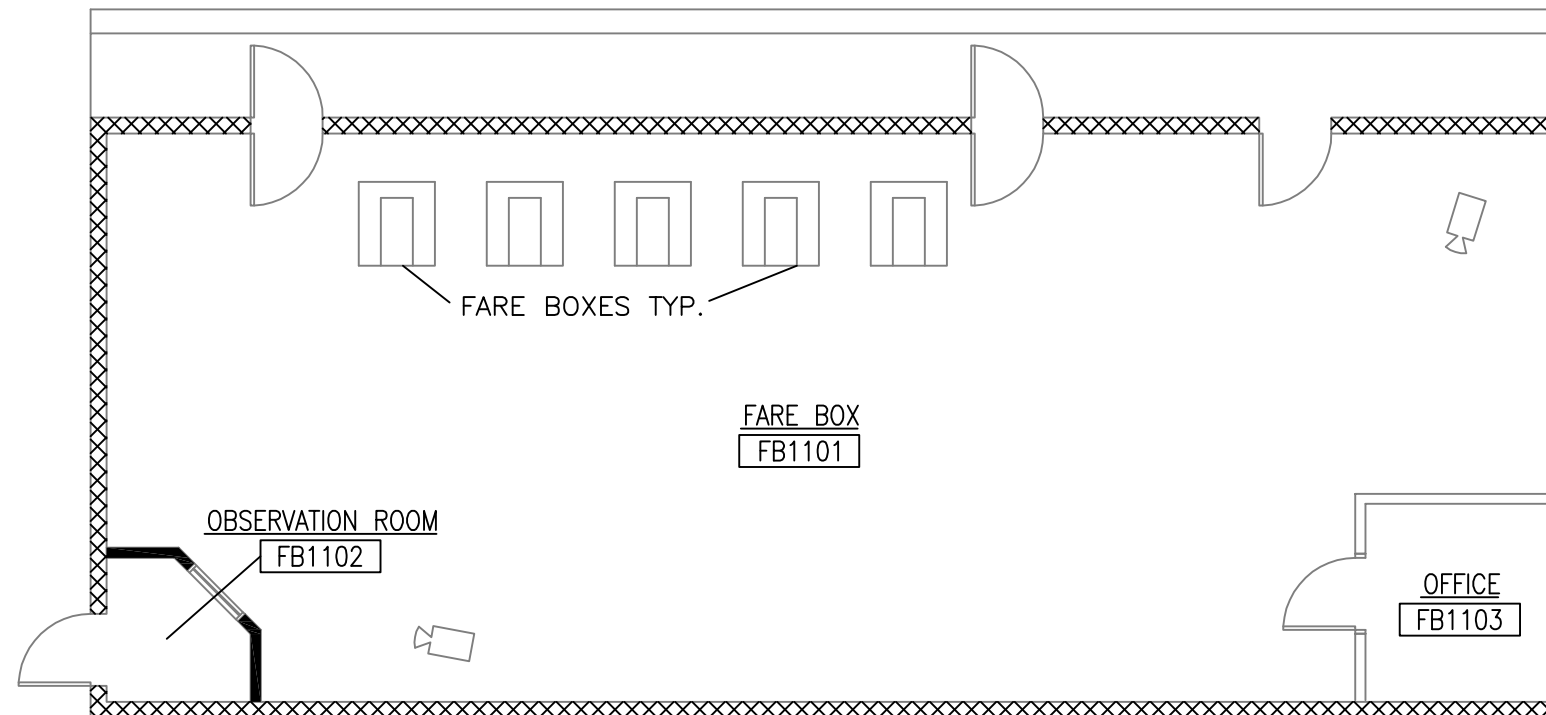
JOB NO.
31810035

DR.

SKETCH NO.

CK.

A4.1A



FIRST FLOOR PLAN AREA "A"



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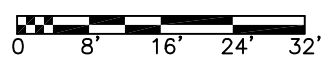
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - GILBERT FACILITY DETROIT, MI

TITLE
FARE BOX
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-11-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A5.1A



BASEMENT FLOOR PLAN



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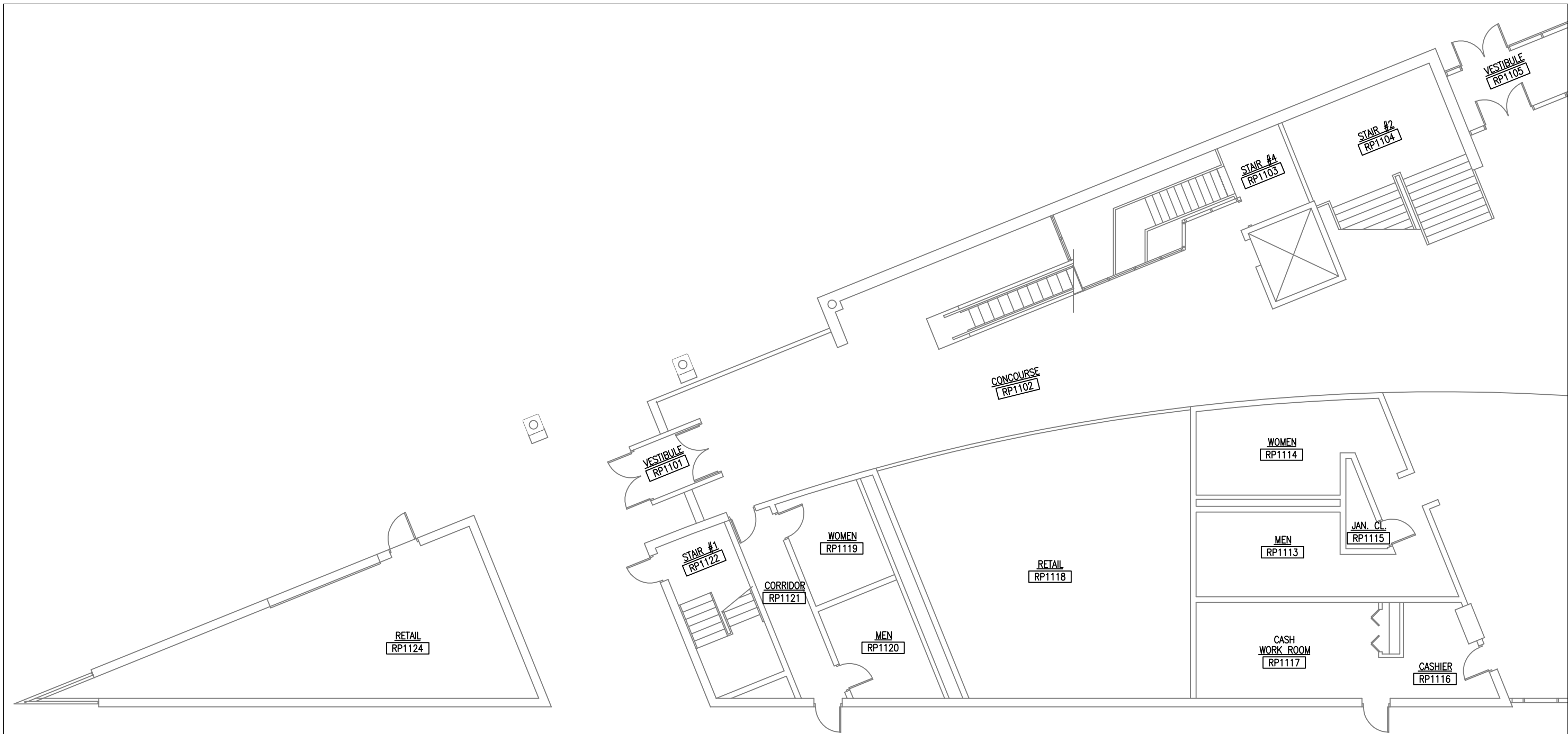


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - ROSA PARKS FACILITY DETROIT, MI

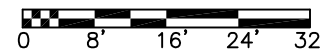
TITLE
ROSA PARKS TERMINAL

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A10



FIRST FLOOR PLAN - AREA 'A'



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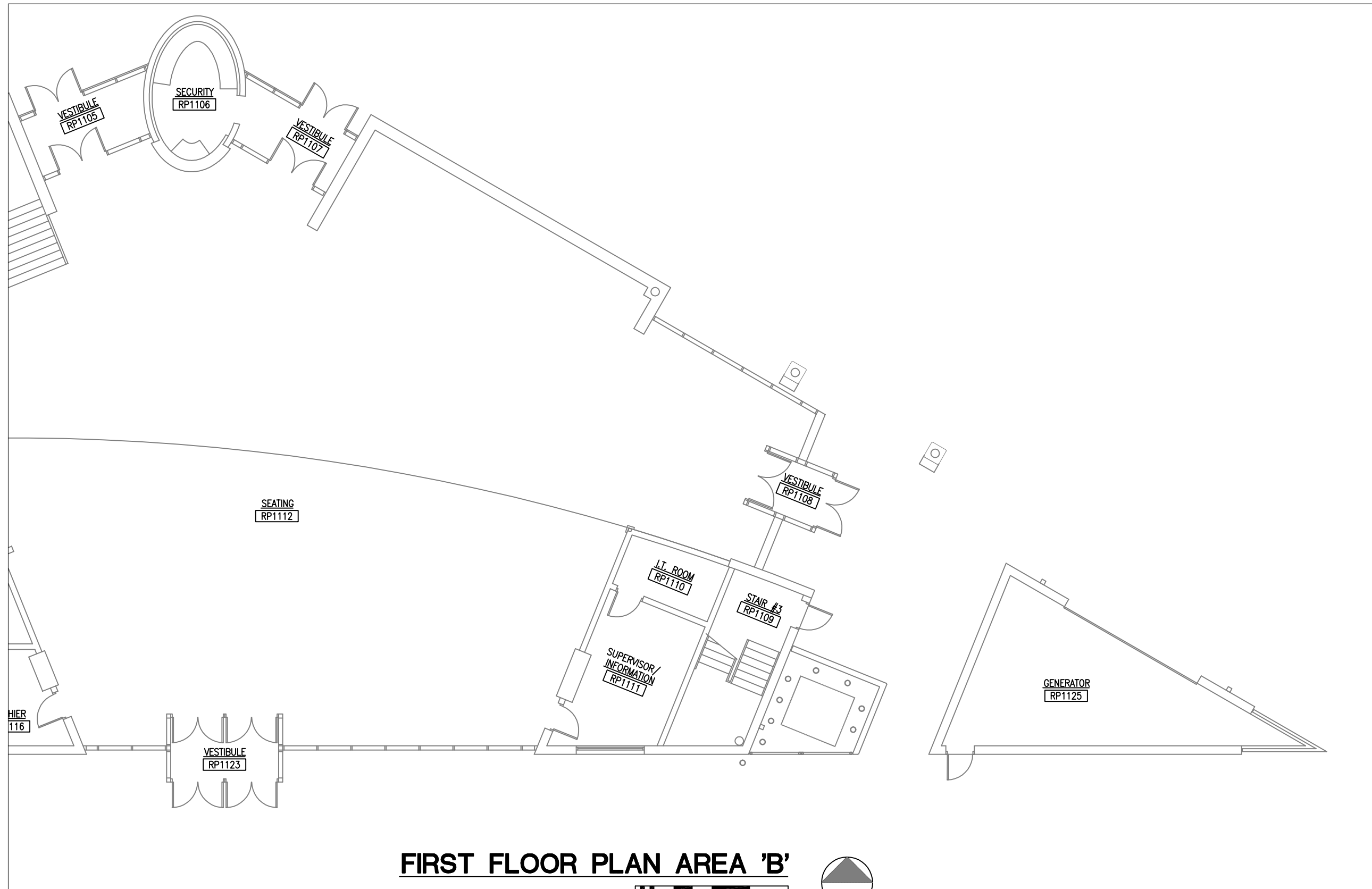


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - ROSA PARKS FACILITY DETROIT, MI

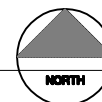
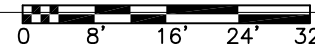
TITLE
ROSA PARKS TERMINAL

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1A



FIRST FLOOR PLAN AREA 'B'



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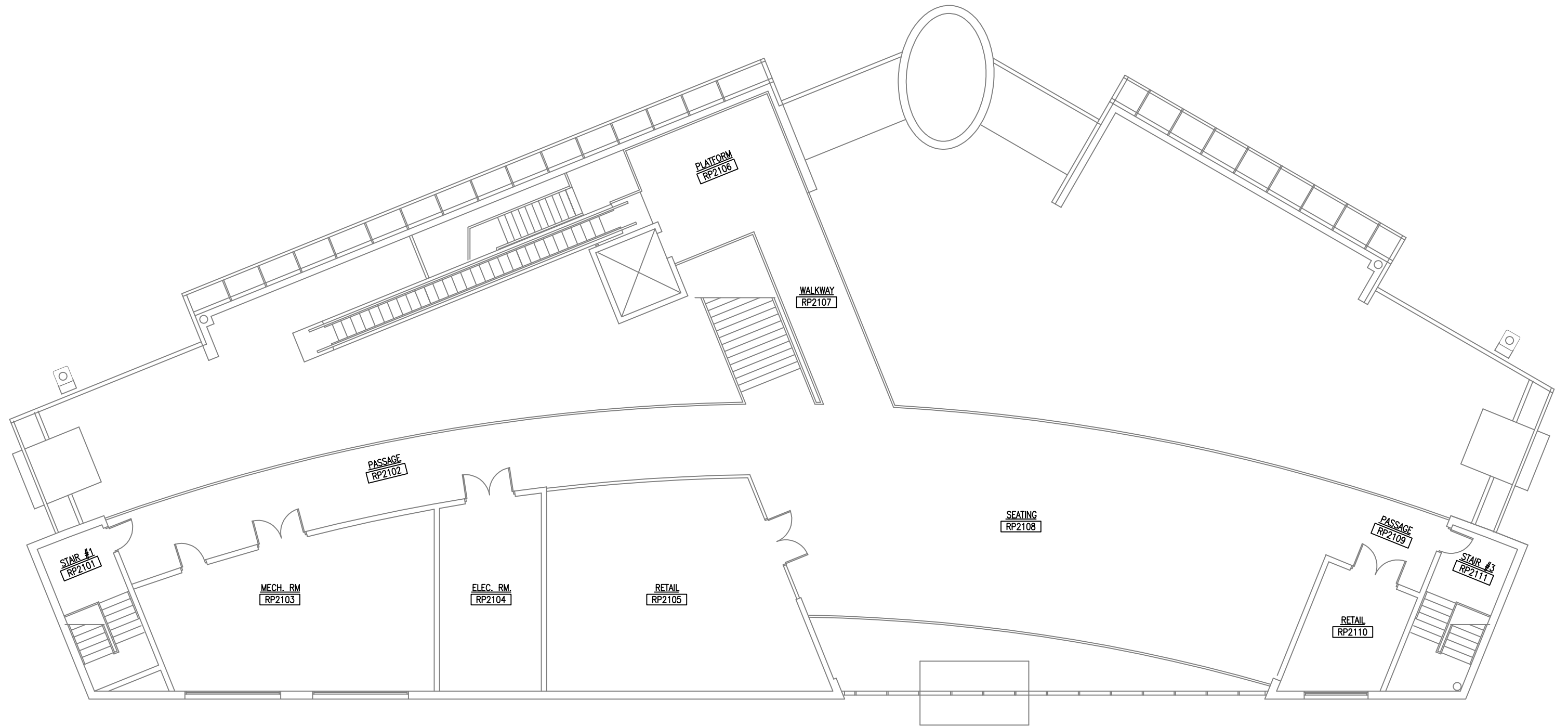


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - ROSA PARKS FACILITY DETROIT, MI

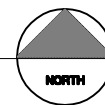
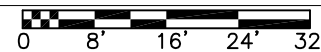
TITLE
ROSA PARKS TERMINAL

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A1.1B



SECOND FLOOR PLAN



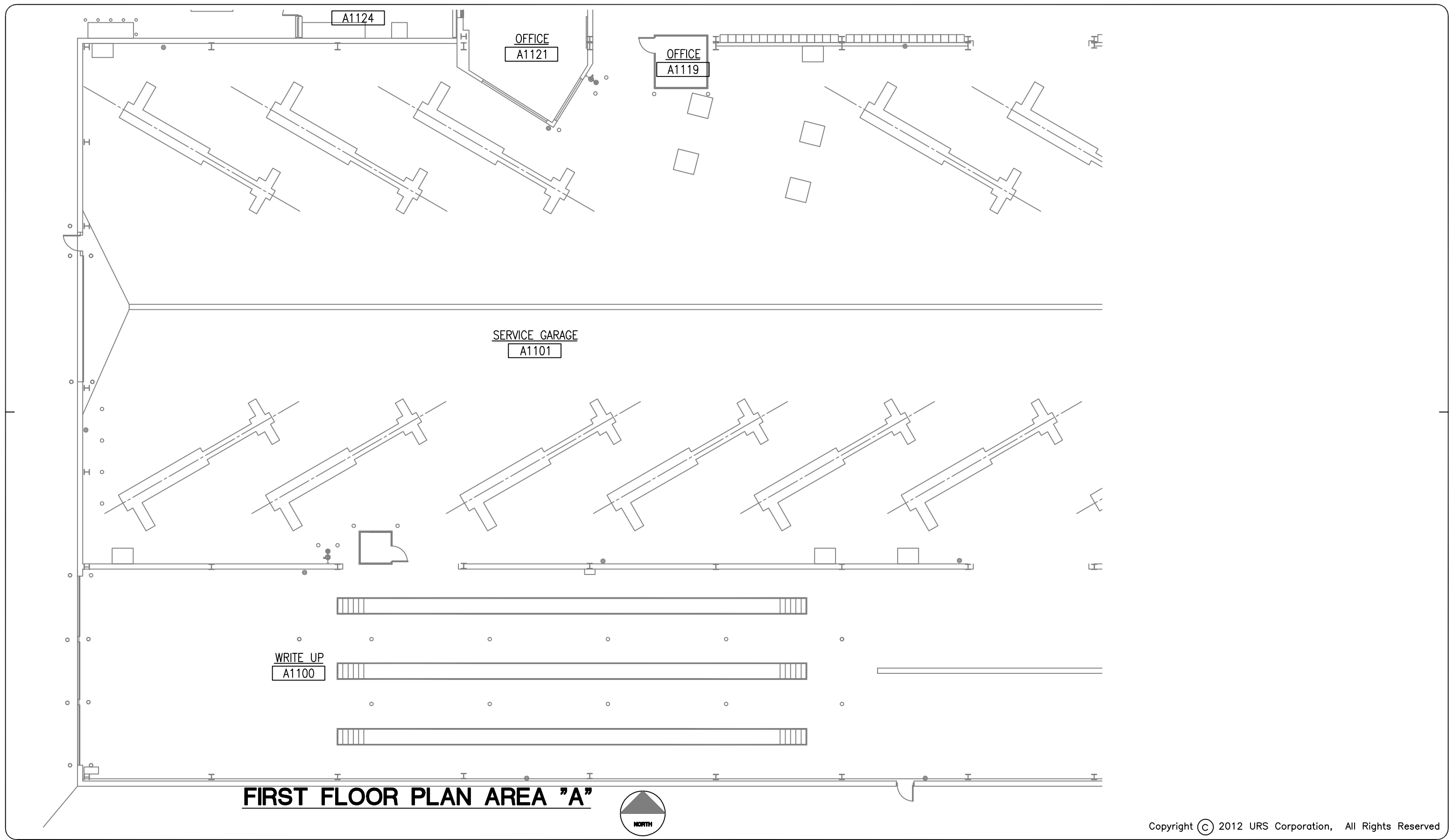
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - ROSA PARKS FACILITY DETROIT, MI

TITLE
ROSA PARKS TERMINAL
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-06	JOB NO. 31810035
DR.	SKETCH NO.
CK.	A12

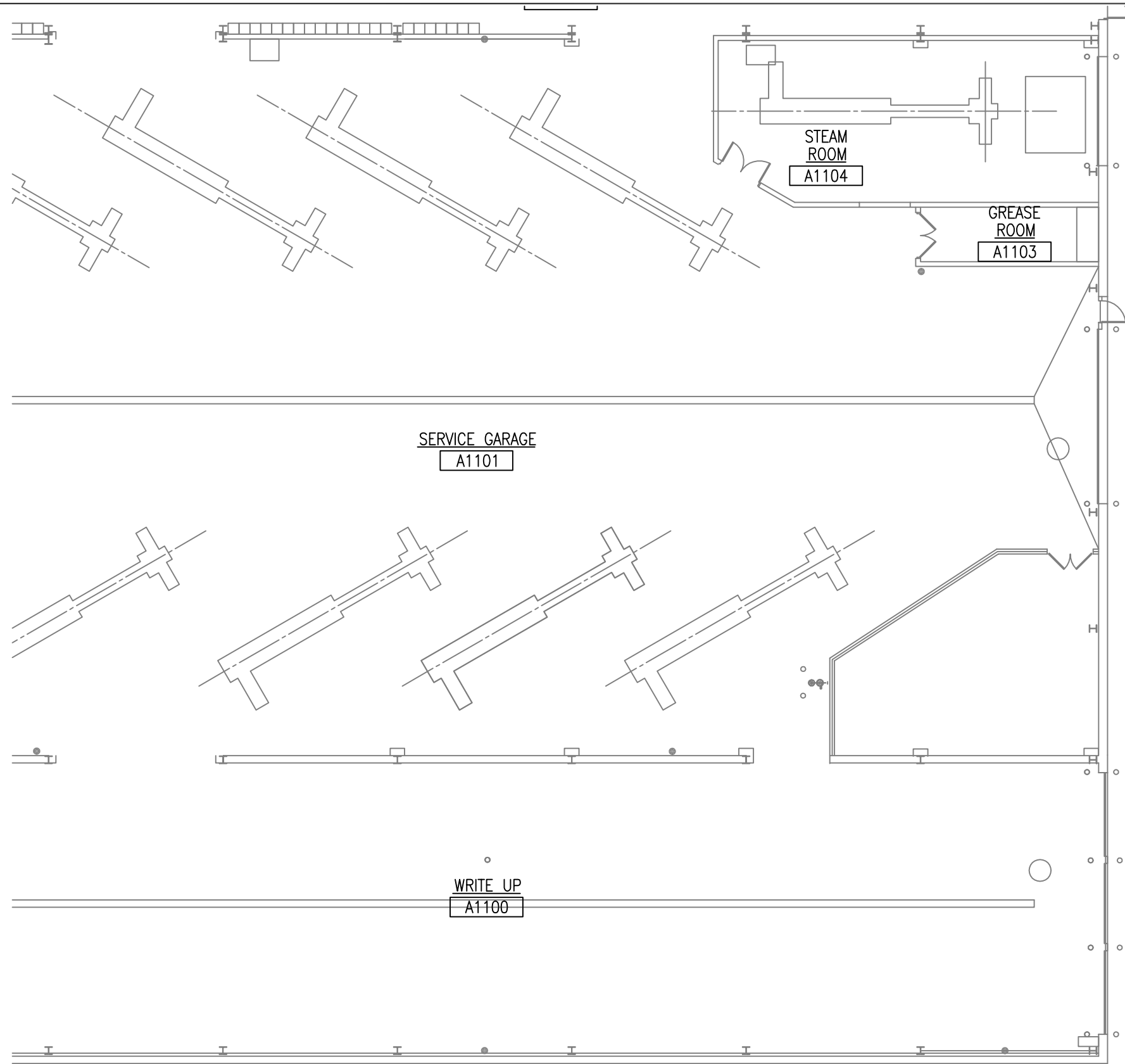


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
MAINTENANCE GARGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SA11A



FIRST FLOOR PLAN AREA "B"



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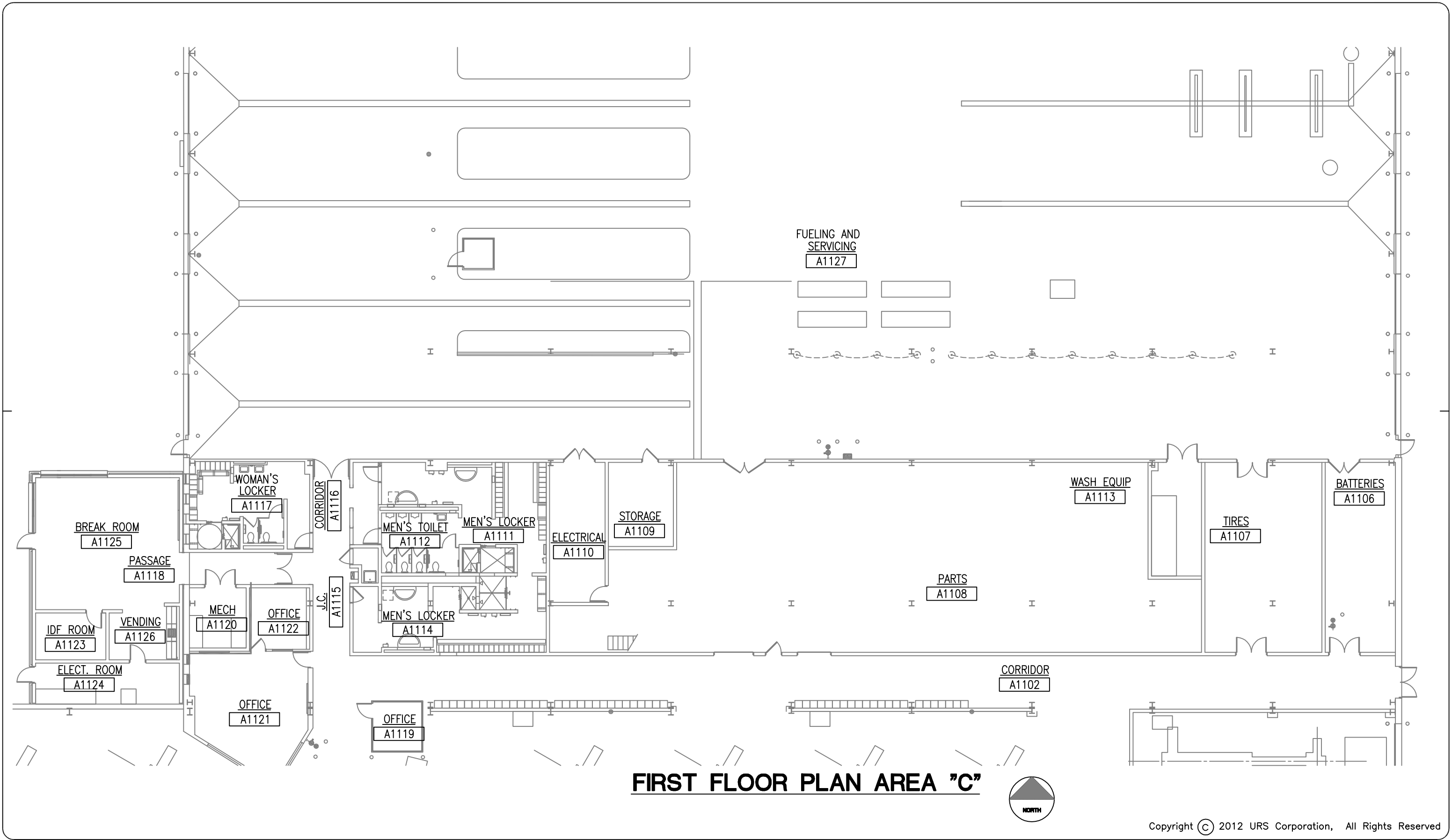


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
MAINTENANCE GARAGE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SA1.1B



FIRST FLOOR PLAN AREA "C"



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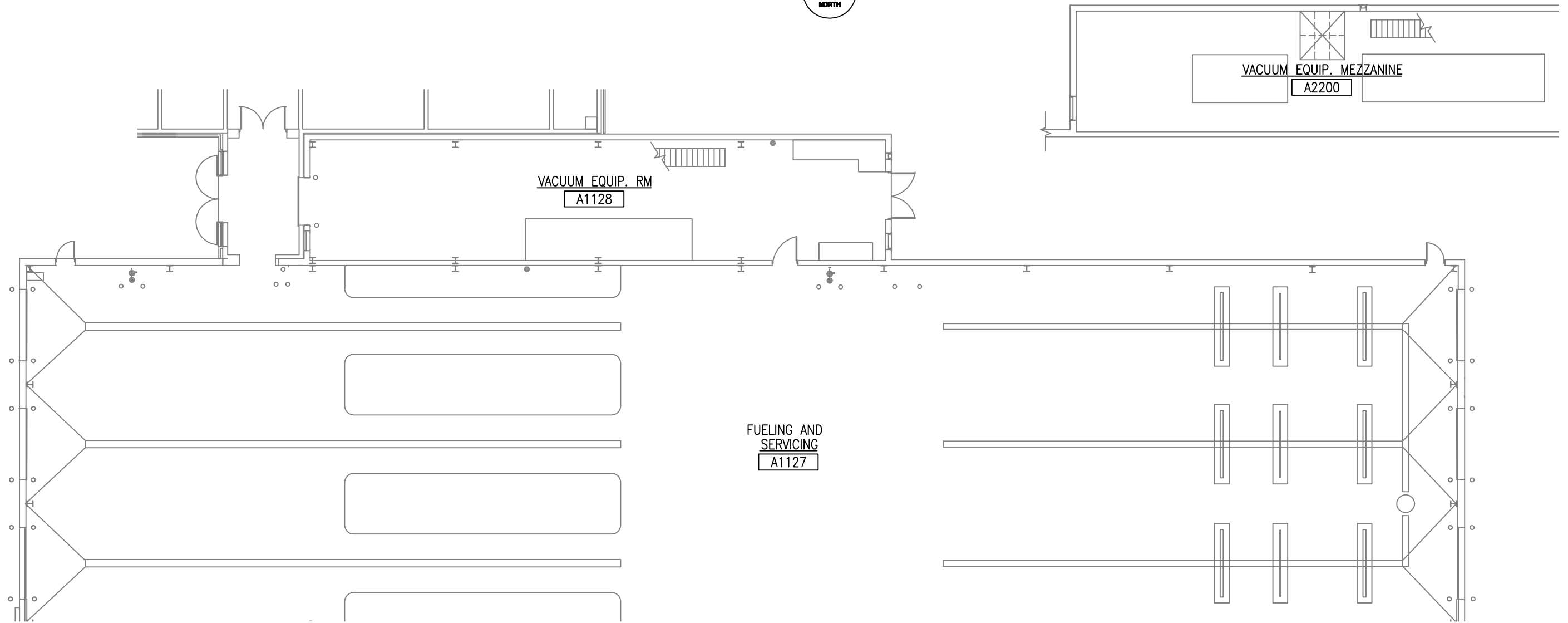
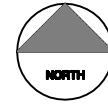


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
MAINTENANCE GARAGE
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SA1.1C

MEZZANINE PLAN AREA "D"



FIRST FLOOR PLAN AREA "D"



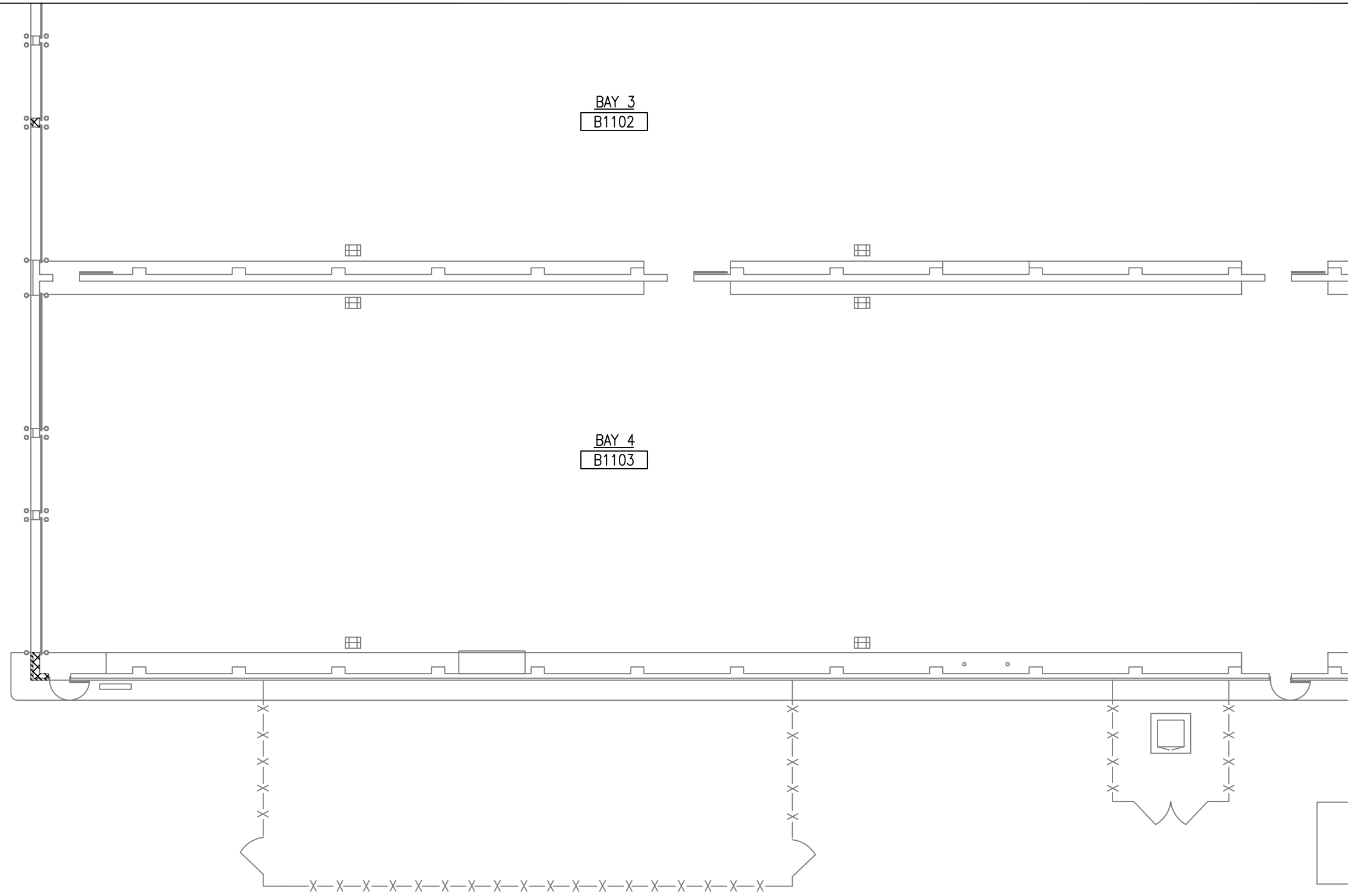
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
MAINTENANCE GARAGE
 URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SA1.1D



FIRST FLOOR PLAN AREA "A"



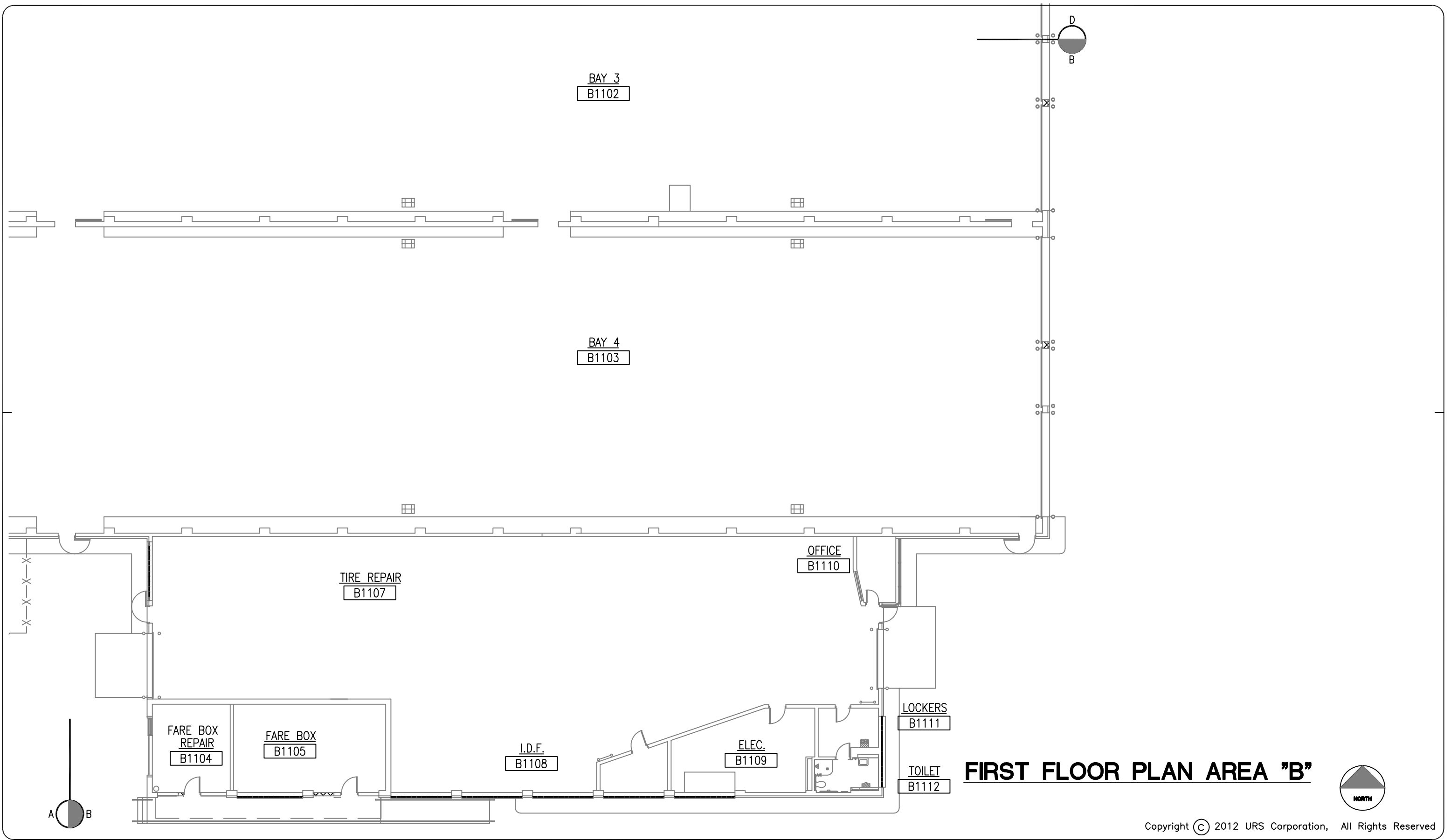
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'B' COACH STORAGE
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SB1.1A



FIRST FLOOR PLAN AREA "B"

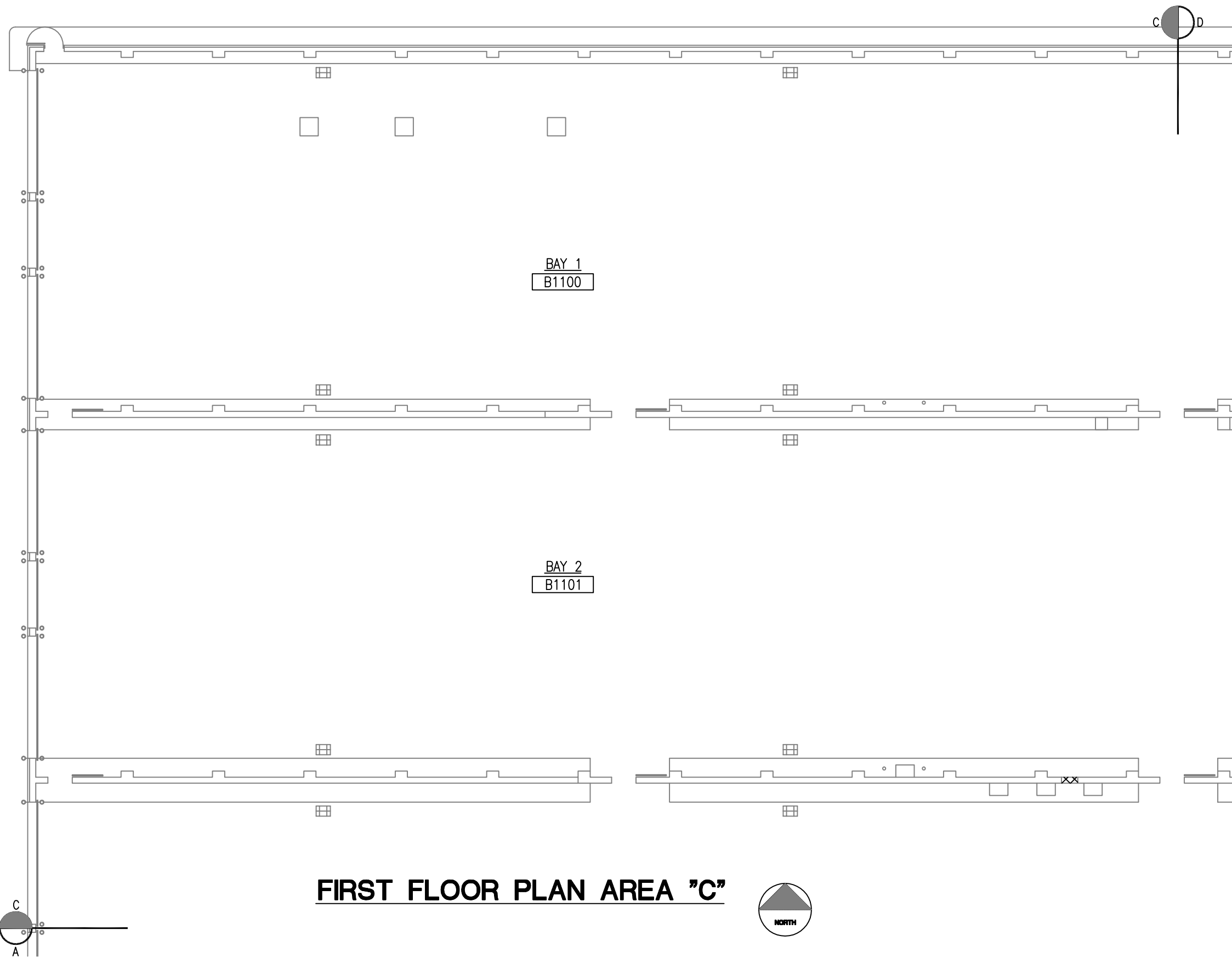
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'B' COACH STORAGE
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SB1.1B



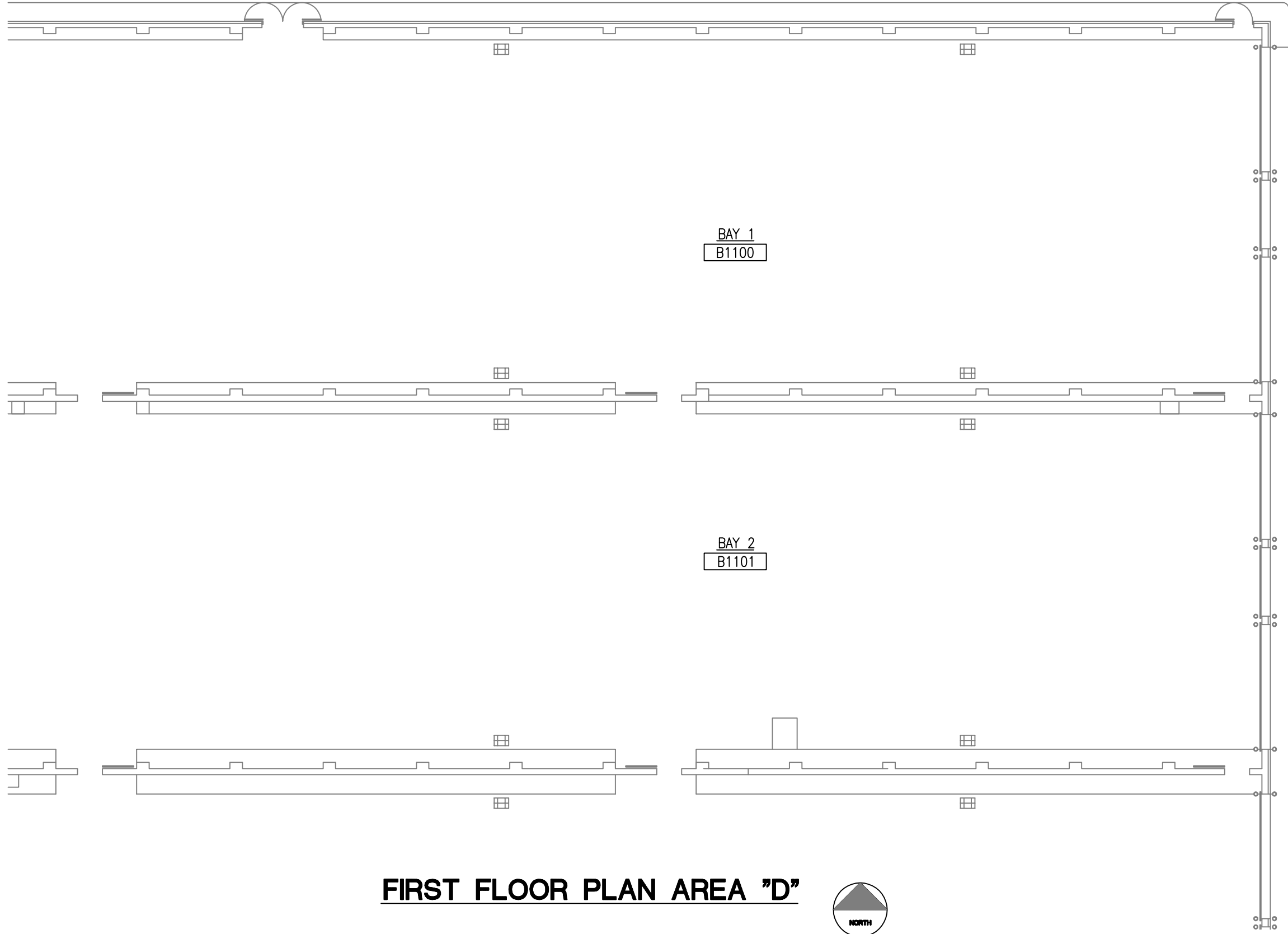
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'B' COACH STORAGE
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SB1.1C



FIRST FLOOR PLAN AREA "D"



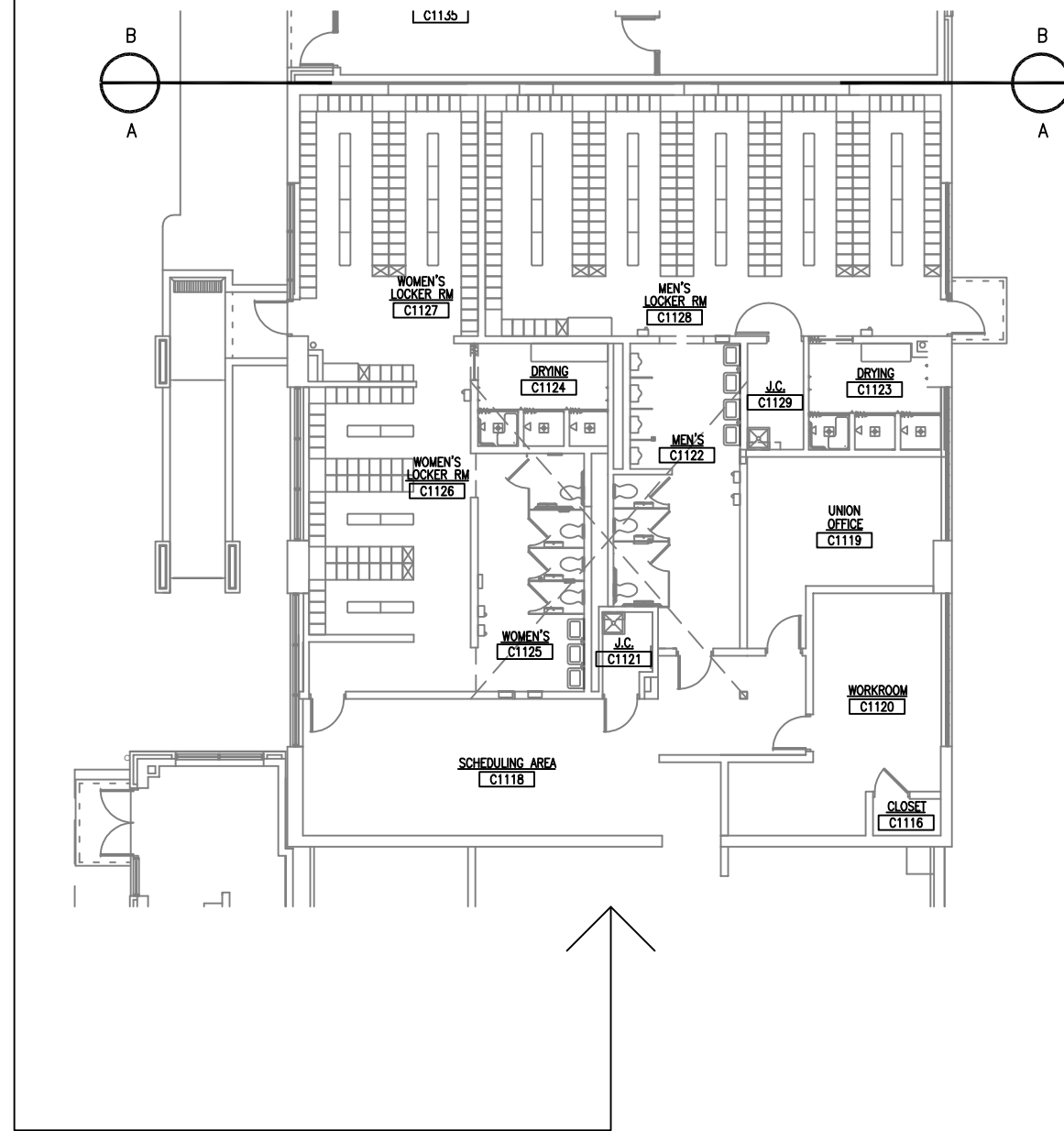
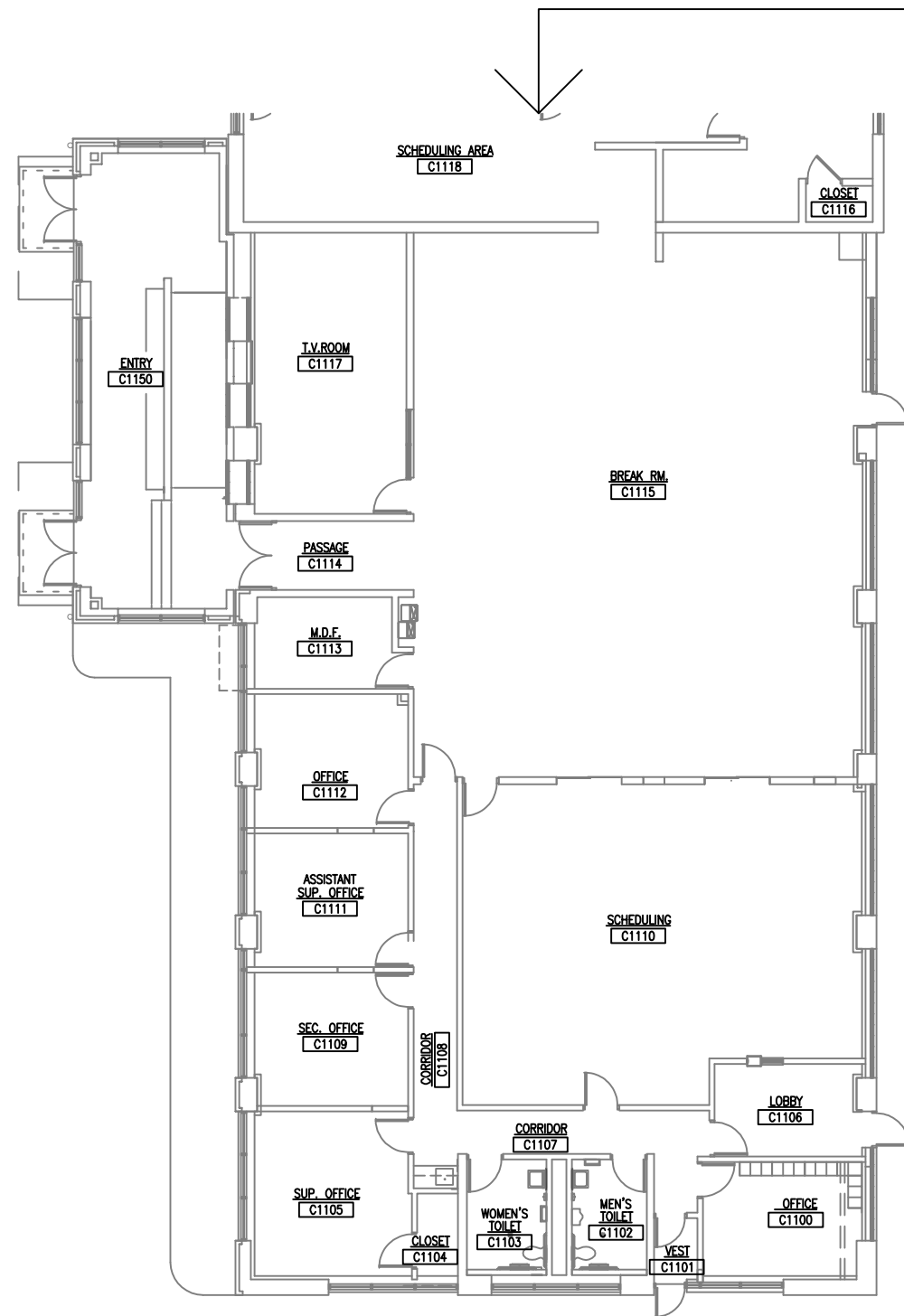
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'B' COACH STORAGE
 URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SB1.1D



FIRST FLOOR PLAN AREA "A"



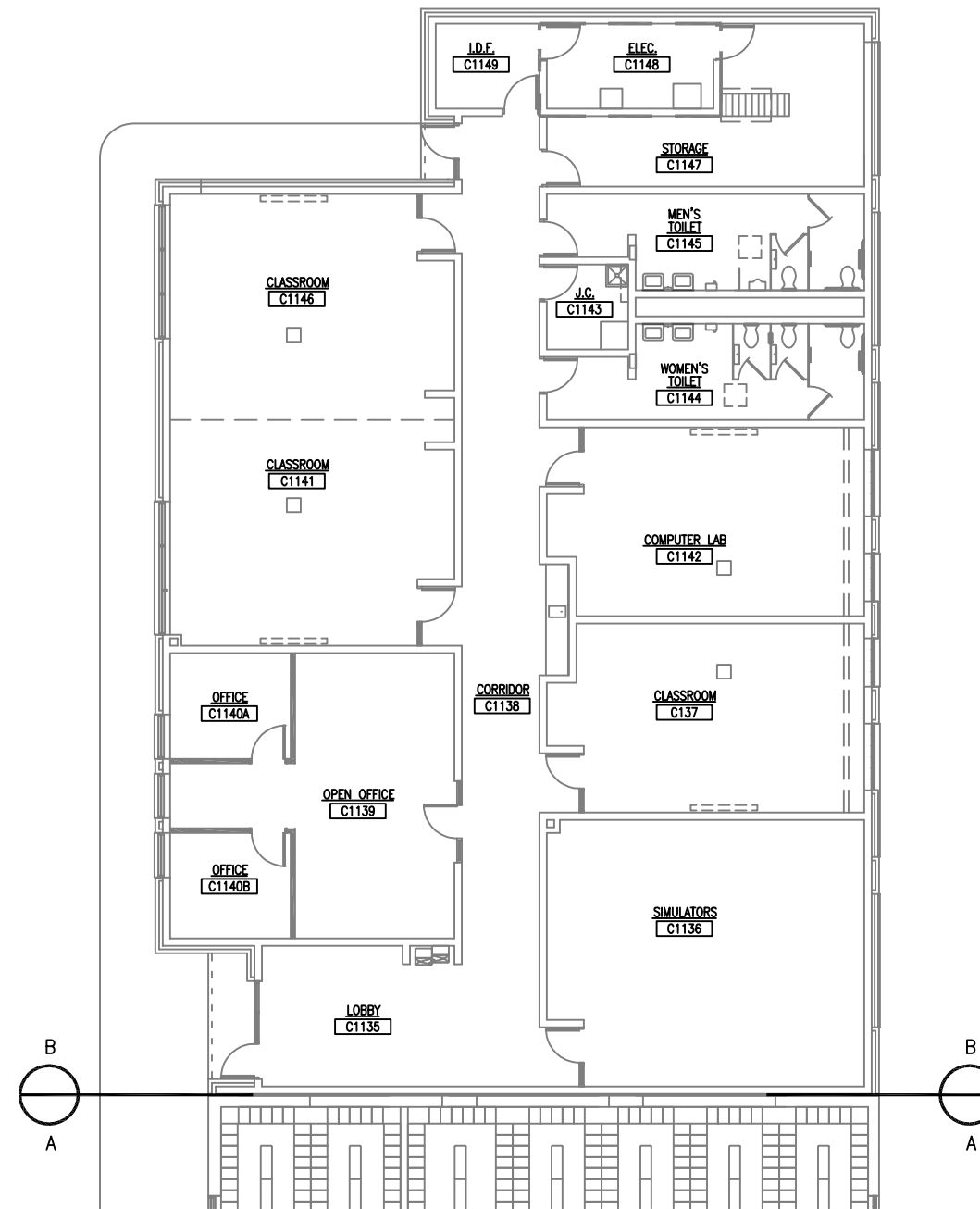
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'C' - TERMINAL BUILDING
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SC1.1A



FIRST FLOOR PLAN AREA "B"



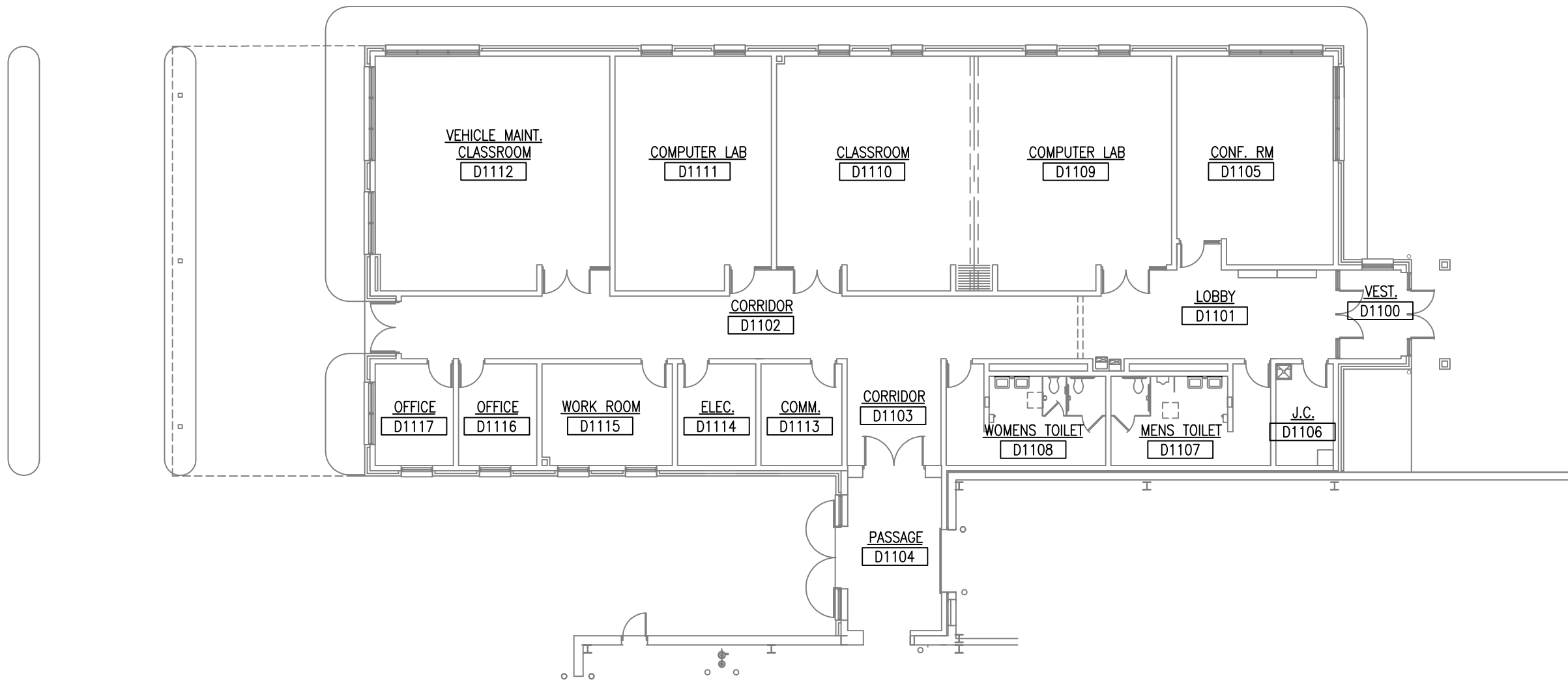
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'C' - TERMINAL BUILDING
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SC1.1B



FIRST FLOOR PLAN AREA "A"



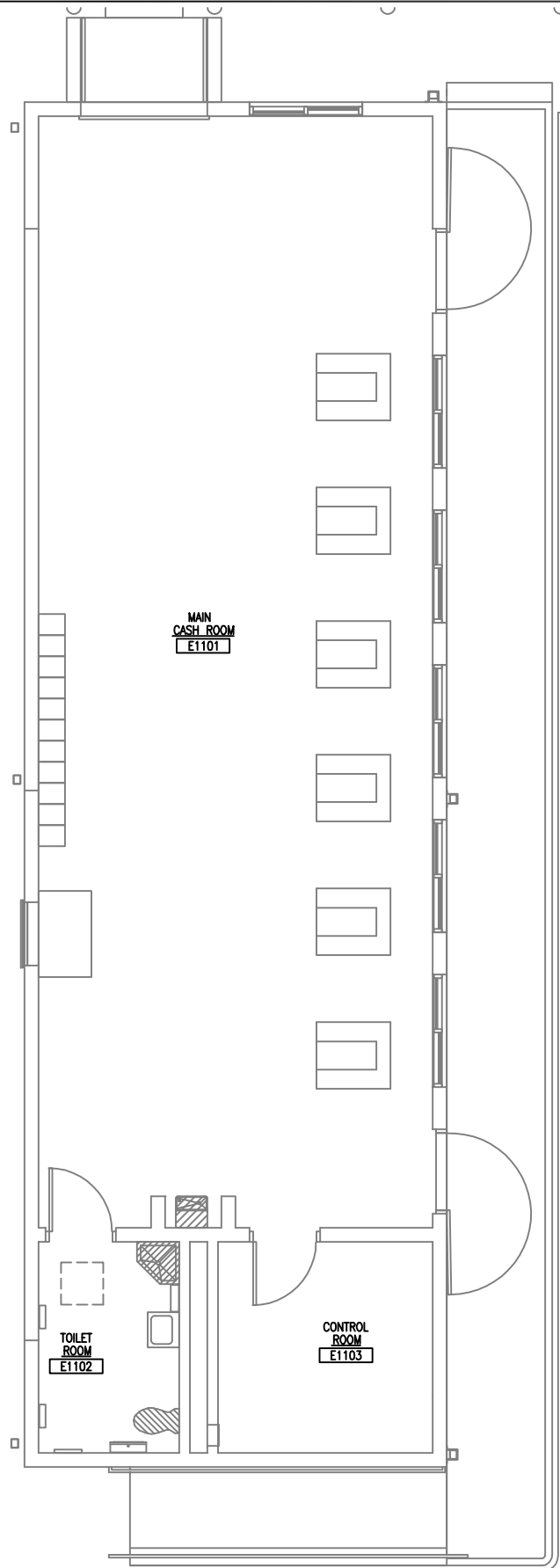
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'D' - TRAINING
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SD1.1A



FIRST FLOOR PLAN AREA "A"



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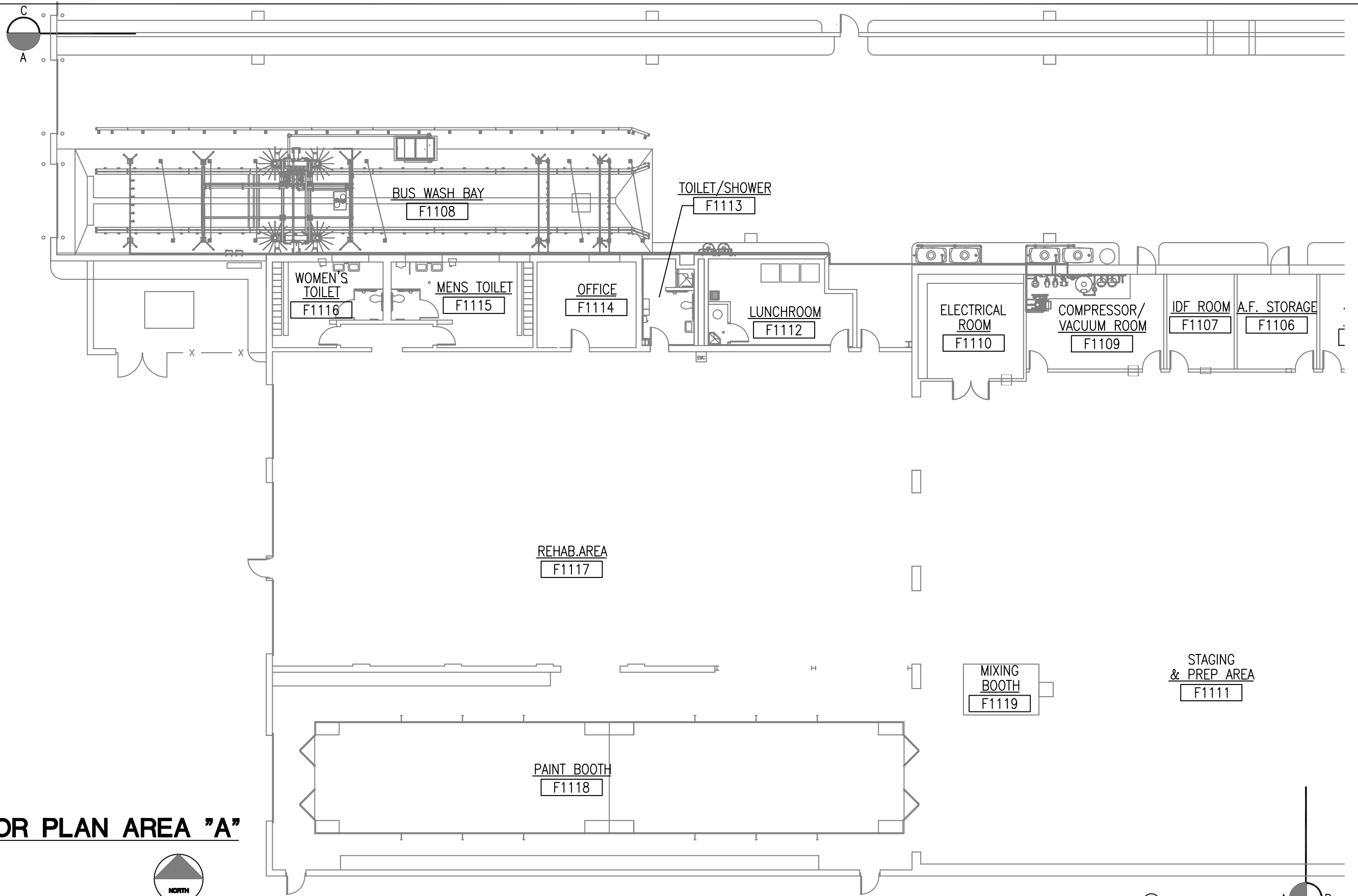


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'E' - FARE BOX

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SE1.1A



FIRST FLOOR PLAN AREA "A"

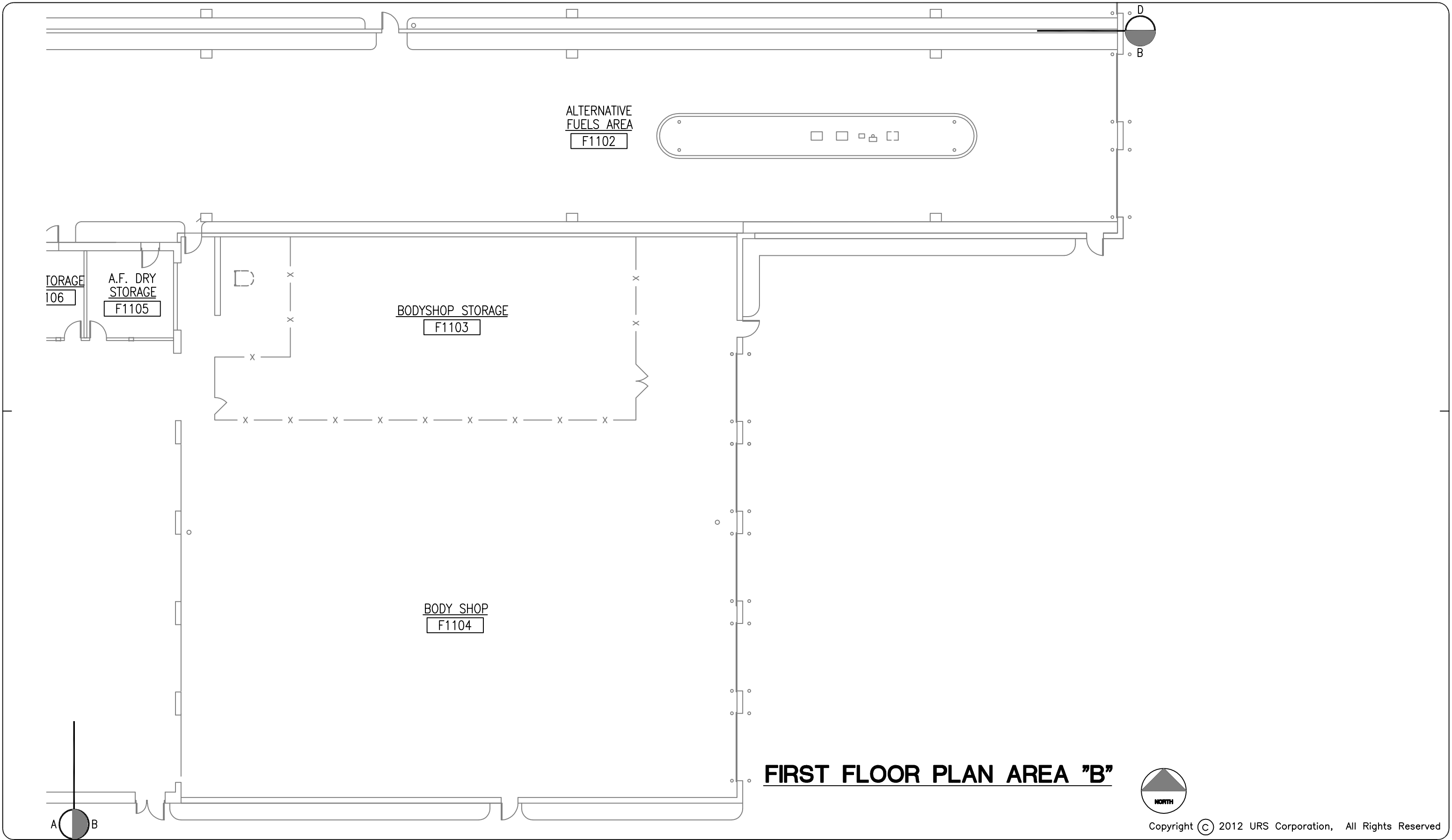
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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'F' - ALTERNATIVE FUELS
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SF1.1A

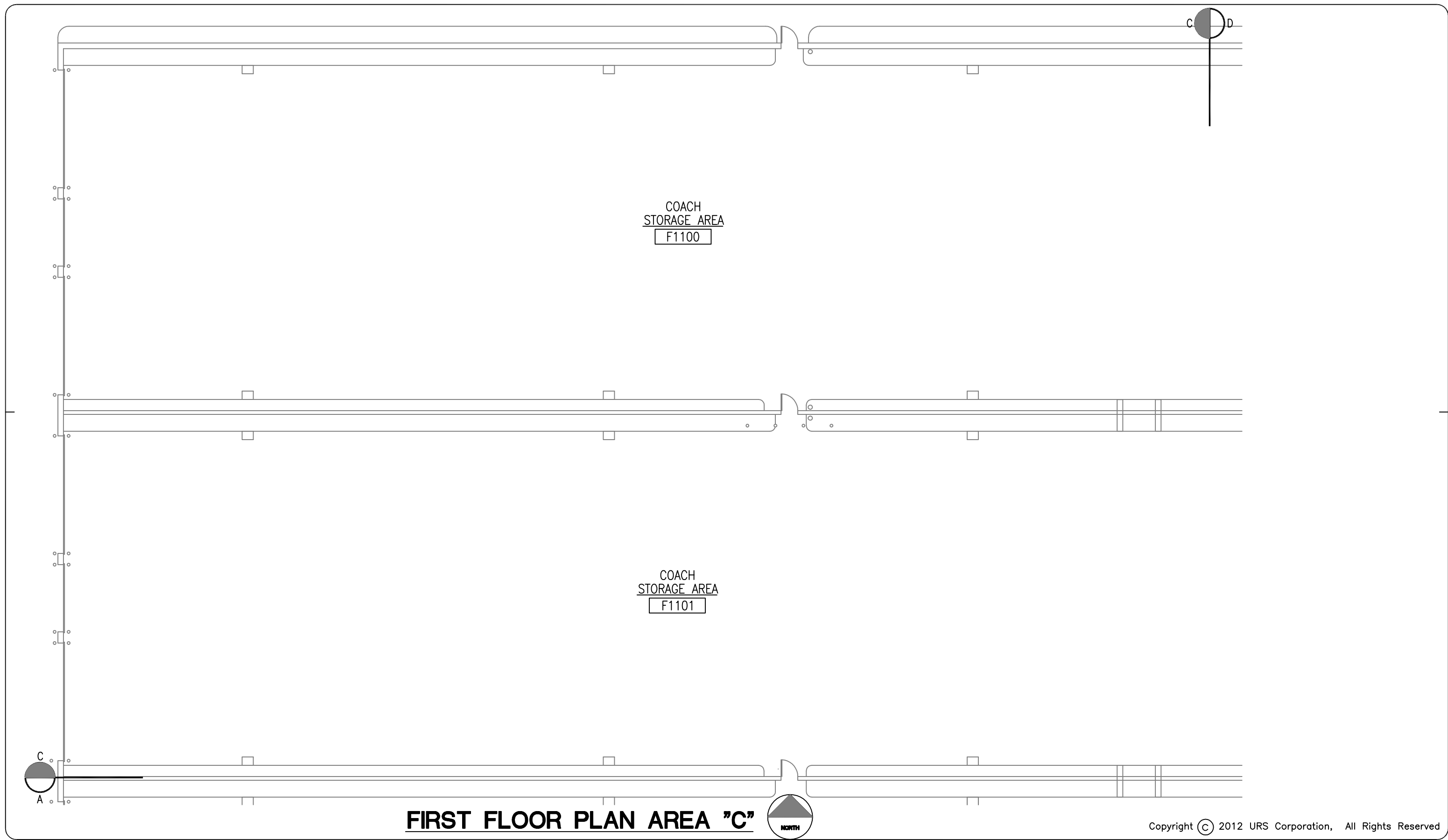


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'F' - ALTERNATIVE FUELS

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SF1.1B

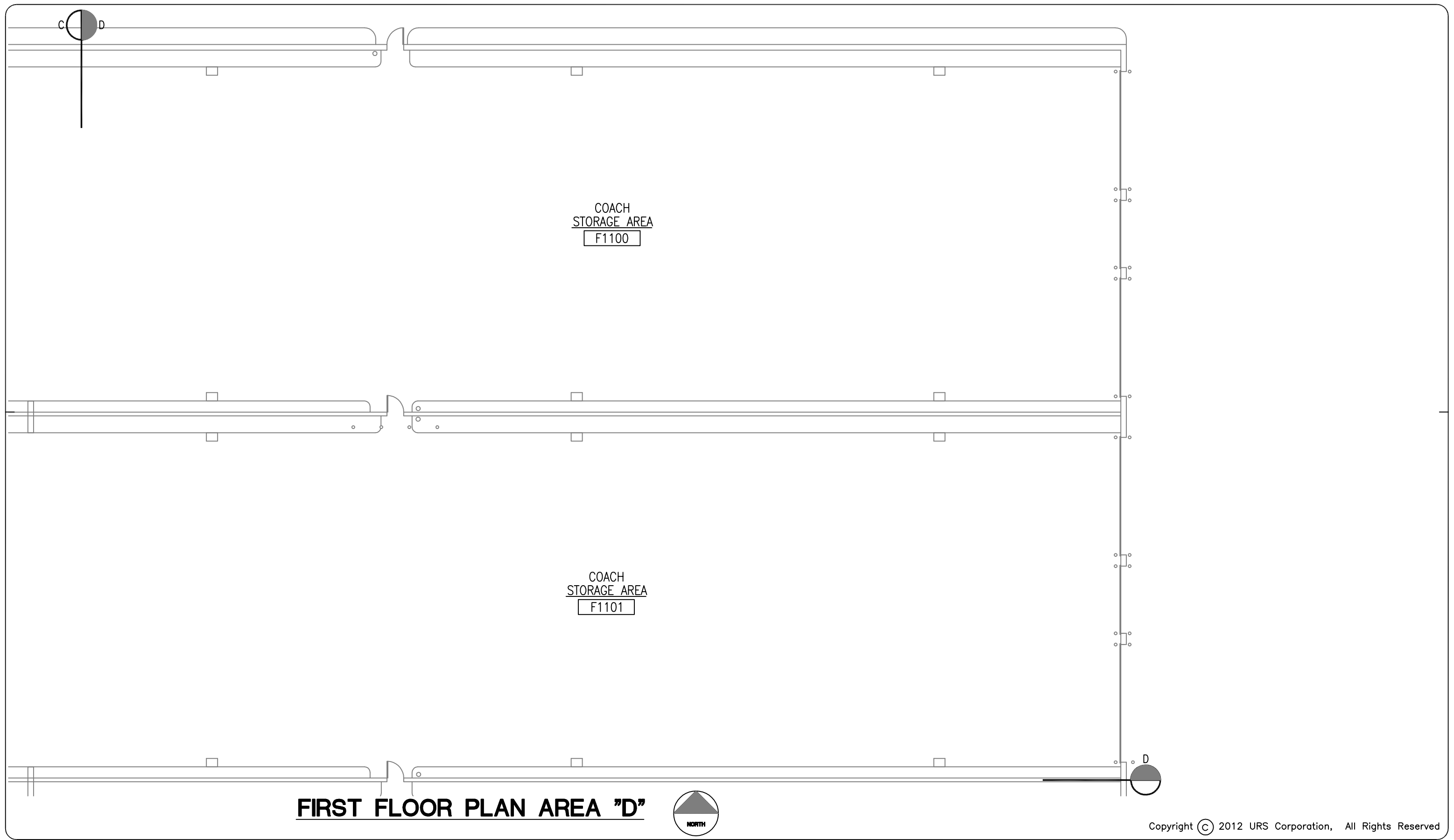


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'F' - ALTERNATIVE FUELS

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SF1.1C

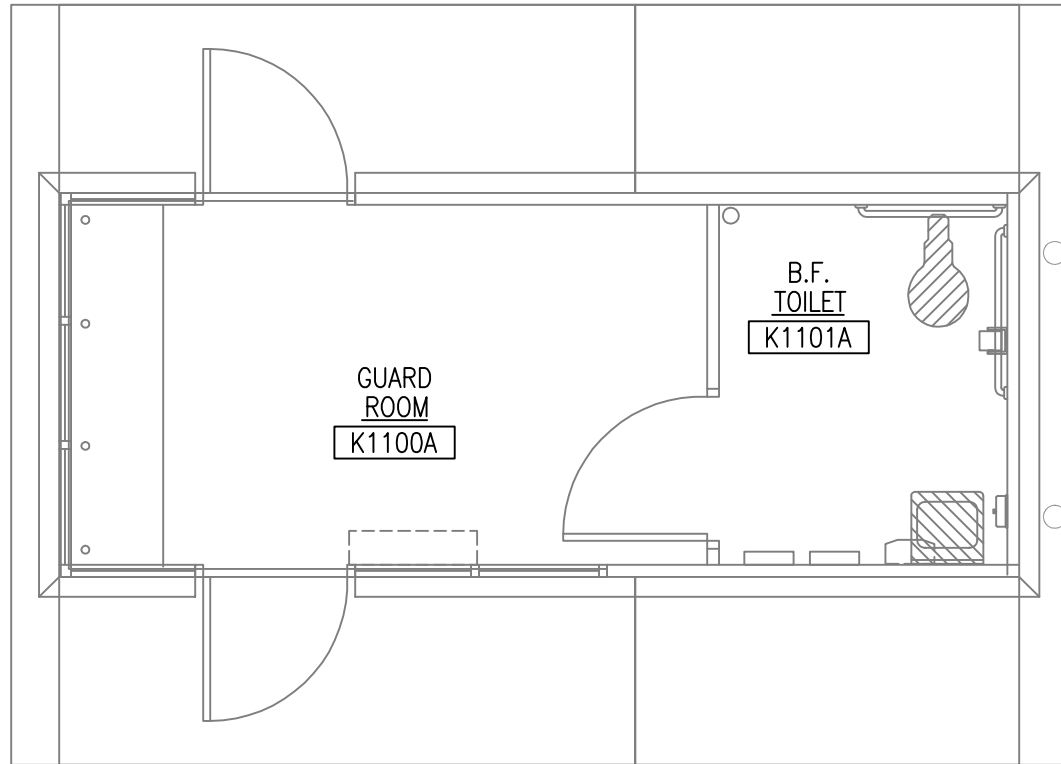


DETROIT DEPARTMENT OF TRANSPORTATION
CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

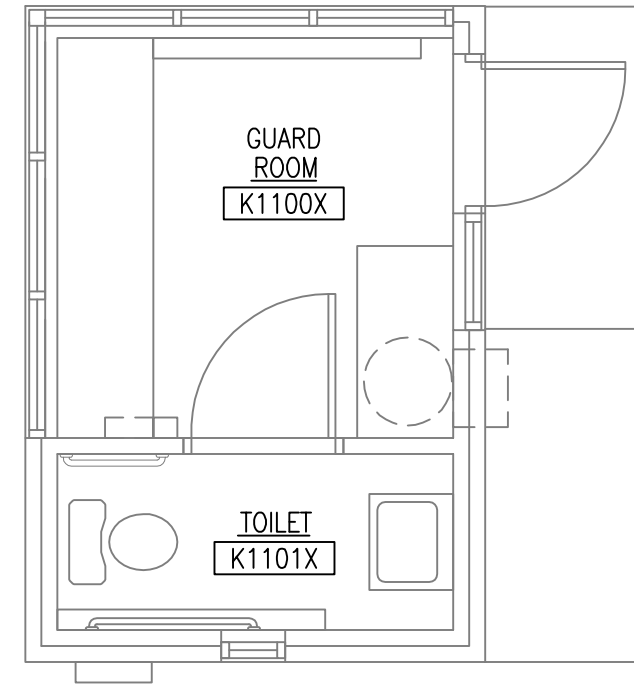
TITLE
BUILDING 'F' - ALTERNATIVE FUELS

URS URS CORPORATION, DETROIT, MI., 313-961-9797

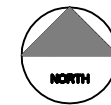
DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SF1.1D



FIRST FLOOR PLAN BLDG. "K2"



FIRST FLOOR PLAN BLDG. "K1"



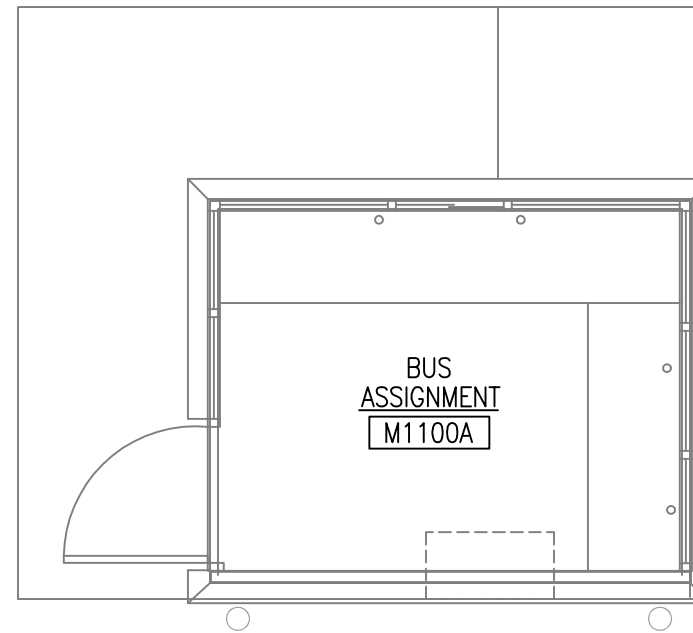
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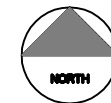
DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'K1 & K2' - GUARD HOUSES
URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SK1.1



FIRST FLOOR PLAN BLDG. "M2"



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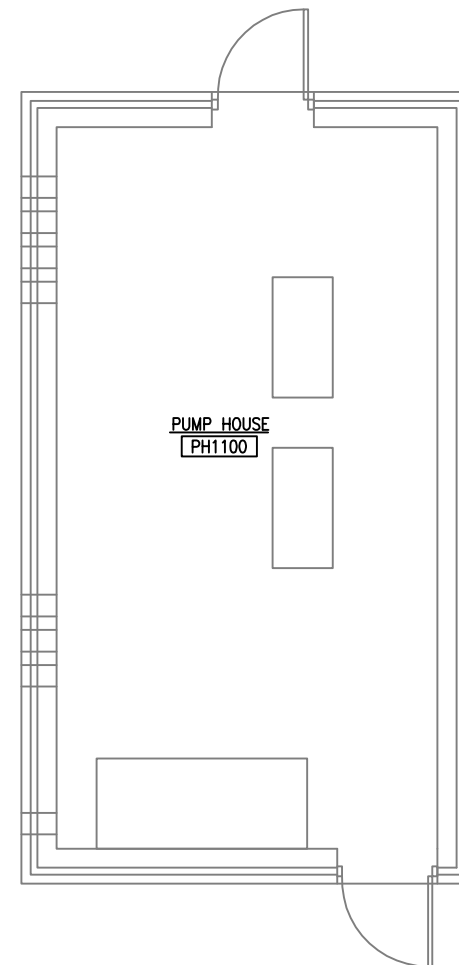


DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'M2' - BUS ASSIGNMENT

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SM1.1



FIRST FLOOR PLAN



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DETROIT DEPARTMENT OF TRANSPORTATION
 CAPITAL ASSET INVENTORY - SHOEMAKER FACILITY DETROIT, MI

TITLE
BUILDING 'PH' - PUMP HOUSE

URS URS CORPORATION, DETROIT, MI., 313-961-9797

DATE 07-06-2010	JOB NO. 31810760
DR.	SKETCH NO.
CK.	SPH1.1

Bah-Deh, Pewu (DEQ)

From: Savage, Craig A. [csavage@GFNET.com]
Sent: Tuesday, May 01, 2012 10:02 AM
To: Bah-Deh, Pewu (DEQ)
Subject: Draft results for Detroit DDOT Schaefer Highway
Attachments: Soil Table AS.pdf; Groundwater Table AS.pdf; 54910 fig4 Model (1).pdf - Adobe Acrobat Professional.pdf

Hello Pewu,

We are working on the RI/FS report for the DDOT Bus Depot on Schaefer Hwy., but I wanted to get you some information in the interim. Attached are draft copies of soil analytical tables, groundwater analytical tables and a map showing sampling locations. Most contamination identified on the site was shallow, and especially near the north UST area, the contaminants appeared to be related to surface spills that had entered cracks in the concrete and spread laterally along the underside of the concrete slab. There is a significant clay at about 4 feet that seems to have stopped vertical migration of contaminants into the deeper soils, and most is contained in the shallow fill.

I'll be in your office today meeting with Jeanne Schlaufman from 12-1:30 about a site in New Boston, MI, so track me down if you want to discuss anything. Otherwise, please take a look at the data and I'll set up a separate time for us to talk about options to include in the FS. Thanks.

Craig A. Savage | Vice President, Regional Office Manager
Gannett Fleming of Michigan, Inc. | 44099 Plymouth Oaks Blvd., Suite 102, Plymouth, MI 48170-6527
t 734.459.6955 | c 734.552.2222 | csavage@gfnet.com
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DRAFT

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-1 (4-6)	SB-1 (10-12)	SB-2 (4-6)	SB-2 (14-16)	SB-3 (2-4)	SB-3 (8-10)							
					1/30/2012	1/30/2012	1/30/2012	1/31/2012	1/30/2012	1/30/2012							
VOLATILE ORGANIC COMPOUNDS (VOCs)																	
Date Analyzed	2/6/2012		2/2/2012		2/2/2012		2/2/2012		2/1/2012								
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260								
Collection Method	GS		GS		GS		GS		GS								
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL							
1,2,4-Trimethylbenzene	NPC	NPC	NPC	NPC	1,300	64	< 64	64	< 63	62	170	64	< 60	60			
1,2,4,6-Tetramethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	2,200	64	< 64	64	< 63	63	< 62	62	540	64	< 60	60	
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	580	64	< 64	64	< 63	62	84	64	< 60	60			
Benzene	4,000	8,400	4.0E+5	4.0E+5	310	64	< 64	64	< 63	63	< 62	62	77	64	< 60	60	
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	470	64	< 64	64	< 63	63	< 62	62	1,000	64	< 60	60	
m & p - Xylene	NPC	NPC	NPC	NPC	940	130	< 130	130	< 130	130	< 120	120	600	130	< 120	120	
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 64	64	< 64	64	< 63	62	< 64	62	< 64	64	< 60	60	
o - Xylene	NPC	NPC	NPC	NPC	270	64	< 64	64	< 63	63	< 62	62	170	64	< 60	60	
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	230	64	< 64	64	< 63	63	< 62	62	180	64	< 60	60	
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	1,210	194	< 194	194	< 193	193	< 182	182	770	194	< 180	180	
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)																	
Date Analyzed	2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012								
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270								
Collection Method	GS		GS		GS		GS		GS								
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL							
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 360	560	< 570	570	< 2,900	2,900	< 570	570			
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	3,300	1,200	< 230	230		
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 1,200	1,300	< 230	230			
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	5,700	1,300	< 230	230		
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 220	220	< 230	230	< 230	12,000	1,300	< 230	230		
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	11,000	2,300	< 450	450		
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	14,000	2,300	< 450	450		
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	460	< 460	4,500	2,300	< 450	450		
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+6	NA	< 460	460	< 450	450	< 450	460	< 460	4,200	2,300	< 450	450		
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	12,000	1,300	< 230	230	
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	2,300	2,300	< 450	450		
Fluoranthene	3,500	1.0E+9	1.3E+8	NA	190	(1)	230	< 220	220	< 230	230	< 230	230	28,000	1,200	< 230	230
Phenanthrene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 220	220	< 230	230	< 230	230	4,100	1,200	< 230	230	
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	4,600	2,300	< 450	450		
Naphthalene	730	4.7E+5	5.2E+7	NA	420	230	< 220	220	< 230	230	< 230	230	1,400	1,200	< 230	230	
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	13,000	1,200	< 230	230	
Pyrene	ID	1.0E+9	8.4E+7	NA	230	230	< 220	220	< 230	230	< 230	230	24,000	1,300	< 230	230	
INORGANICS AND METALS																	
Date Analyzed	2/8/2012		2/8/2012		2/8/2012		2/8/2012		Various								
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		Various								
Collection Method	GS		GS		GS		GS		GS								
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL							
Lead - Total	(G,X)	NLV	9.0E+5	NA	12	1	5.9	1	6.2	1	50	1	6.8	1			
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	500,000	29,000	NA	NA			
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	3,500,000	120,000	NA	NA			

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 S = Result and RL are estimated due to low continuing calibration standard criteria failure.
 D = Analyte value quantified from a dilution(s); RL raised.
 J = Analyte was positively identified. Value is an estimate.
 P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.
 Bolded indicates concentration exceeds laboratory method detection limit.
 Shaded indicates concentration exceeds one or more applicable RBSL.
 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-4 (6-8)		SB-4 (14-16)		SB-5 (10-12)		SB-5 (16-18)		SB-6 (6-8)		SB-6 (14-16)	
					1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	2/2/2012		2/2/2012		2/6/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012	
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	1,300	66	< 61	61	< 62	62	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 61	61	< 65	65	5,200	66	< 61	61	< 62	62	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 61	61	< 65	65	580	66	< 61	61	< 62	62	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 61	61	< 65	65	230	66	< 61	61	< 62	62	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 61	61	< 65	65	1,600	66	< 61	61	< 62	62	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 130	130	1,400	130	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	3.9E+6	3.9E+6	3.9E+6	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	580	66	< 61	61	< 62	62	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 181	181	< 195	195	1,980	196	< 181	181	< 182	182	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)																
Date Analyzed	2/17/2012		2/17/2012		2/17/2012		2/20/2012		2/20/2012		2/20/2012		2/20/2012		2/20/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	< 1,500	1,500	< 570	570	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	3.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[e]h[perylene]	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Fluorene	5,300	3.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Naphthalene	780	NLV	4.7E+5	NA	< 230	230	< 230	230	1,700	590	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	3.1E+6	3.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed	2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012	
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	5.8	1	6.1	1	12	1	5.6	1	5.5	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSLs.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-7 (4-6)	SB-7 (12-14)	SB-8 (6-9)	SB-8 (12-14)	SB-9 (2-4)	SB-9 (12-14)
					1/30/2012	1/30/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012
VOLATILE ORGANIC COMPOUNDS (VOCs)										
Date Analyzed					2/6/2012	2/7/2012	2/4/2012	2/6/2012	2/9/2012	2/6/2012
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,400	65 < 61	61 < 62	62 < 64	64	8,900
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	1,100	65 < 61	61 < 62	62 < 64	64	18,000
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	810	65 < 61	61 < 62	62 < 64	64	7,300
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 65	65 < 61	61 < 62	62 < 64	64	< 490
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 1,200	65 < 61	61 < 62	62 < 64	64	4,400
m & p - Xylene	NPC	NPC	NPC	NPC	350	130 < 120	120 < 120	120 < 130	130	5,200
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65 < 61	61 < 62	62 < 64	64	< 490
o - Xylene	NPC	NPC	NPC	NPC	< 65	65 < 61	61 < 62	62 < 64	64	2,500
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65 < 61	61 < 62	62 < 64	64	< 490
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 415	195 < 181	181 < 182	182 < 194	194	7,700
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)										
Date Analyzed					2/20/2012	2/20/2012	2/16/2012	2/16/2012	2/16/2012	2/16/2012
Analytical Method No.					EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270	EPA Method 8270	EPA Method 8260
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570 < 570	570 < 570	570 < 570	570	3,200
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230 < 230	230 < 230	230 < 230	230	< 1,100
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230 < 230	230 < 230	230 < 230	230	< 1,100
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230 < 230	230 < 230	230 < 230	230	910 (I)
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230 < 230	230 < 230	230 < 230	230	1,600
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 450	450 < 450	450 < 450	450 < 460	460	2,100 (I)
Benzo[k]fluoranthene (Q)	NLL	NLV	7.0E+6	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Benzo[e]pyrene	NLL	NLV	8.0E+5	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230 < 230	230 < 230	230 < 230	230	1,300
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Dibenz[a,h]anthracene	NLL	NLV	8.0E+6	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230 < 230	230 < 230	230 < 230	230	4,200
Fluorene	3,300	1.0E+9	8.7E+7	NA	< 230	230 < 230	230 < 230	230 < 230	230	530 (I)
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 450	450 < 450	450 < 450	450 < 460	460	< 2,300
Naphthalene	730	4.7E+5	5.2E+7	NA	430	230 < 230	230 < 230	230 < 230	230	4,100
Phenanthrene	2,100	5.1E+6	3.2E+6	NA	< 230	230 < 230	230 < 230	230 < 230	230	4,400
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230 < 230	230 < 230	230 < 230	230	4,300
INORGANICS AND METALS										
Date Analyzed					2/8/2012	2/2/2012	2/13/2012	2/13/2012	2/13/2012	2/13/2012
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.0	1	6.3	1	7.9	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 S = Result and RL are estimated due to low continuing calibration standard criteria failure.
 D = Analyte value quantified from a dilution(s); RL raised.
 J = Analyte was positively identified. Value is an estimate.
 P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.
Bolded indicates concentration exceeds laboratory method detection limit.
 Standard indicates concentration exceeds one or more applicable RBSLs.
 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-10 (6-9)	SB-10 (12-14)	SB-11 (4-6)	SB-11 (12-14)	SB-12 (4-6)	SB-12 (12-14)
					1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012
VOLATILE ORGANIC COMPOUNDS (VOCs)										
Date Analyzed					2/6/2012	2/6/2012	2/6/2012	2/6/2012	2/8/2012	2/8/2012
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 62	62
1,2,4-Trimethylbenzene	370	1.1E+3	1.1E+3	1.1E+3	< 70	70	< 66	66	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 70	70	< 66	66	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 70	70	< 66	66	< 62	62
Ethyl benzene	350	1.4E+3	1.4E+3	1.4E+3	< 70	70	< 66	66	< 62	62
m & p-Xylene	NPC	NPC	NPC	NPC	< 140	140	< 130	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+3	5.9E+6	5.9E+6	5.9E+6	< 70	70	< 66	66	< 62	62
o-Xylene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 70	70	< 66	66	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 210	210	< 196	196	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA's)										
Date Analyzed					2/16/2012	2/16/2012	2/16/2012	2/23/2012	2/23/2012	2/23/2012
Analytical Method No.					EPA Method 8260	EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270	EPA Method 8270
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 590	590	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 240	240	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 240	240	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 240	240	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 460	460	< 450	450
Benzo[e]pyrene (Q)	NLL	NLV	7.0E+6	NA	< 470	470	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+6	NA	< 470	470	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8,000	NA	< 240	240	< 230	230	< 230	230
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 450	450
Fluoranthene	5,300	1.0E+9	1.3E+8	NA	< 240	240	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 240	240	< 230	230	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 240	240	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 240	240	< 230	230	< 230	230
INORGANICS AND METALS										
Date Analyzed					2/13/2012	2/13/2012	2/13/2012	2/8/2012	2/8/2012	2/8/2012
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	8.1	1	8.6	1	6.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSLs.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID Date Collected	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-13 (2-4)		SB-13 (12-14)		SB-14 (0-2)		SB-14 (12-14)		SB-15 (2-4)		SB-15 (16-18)	
					1/31/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/8/2012		2/8/2012		2/9/2012		2/7/2012		2/7/2012		2/7/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	29,000	2,600	65	65	3,500	470	< 62	62	< 62	62	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	130,000	2,600	280	65	7,500	470	< 62	62	< 62	62	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	41,000	2,600	95	65	2,700	470	< 62	62	< 62	62	< 61	61
Benzene	4,900	8,400	4.0E+5	4.0E+5	< 2,600	2,600	< 65	65	< 470	470	190	62	< 62	62	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	18,000	2,600	< 65	65	< 470	470	< 62	62	< 62	62	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	78,000	5,200	140	130	2,000	950	< 120	120	< 120	120	< 120	120
o-Xylene	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 2,600	2,600	< 65	65	< 470	470	< 62	62	< 62	62	< 61	61
Methyl tertiary butyl ether (MTBE)	NPC	NPC	NPC	NPC	32,000	2,600	< 65	65	890	470	< 62	62	< 62	62	< 61	61
Styrene	5,400	2.5E+5	2.5E+5	2.5E+5	44,000	2,600	90	65	< 470	470	< 62	62	< 62	62	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	110,000	7,800	< 285	195	2,890	1,420	< 182	182	< 182	182	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)																
Date Analyzed					2/23/2012		2/23/2012		2/24/212		2/24/2012		2/24/2012		2/24/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	13,000	2,800	< 570	570	5,700	280	< 570	570	< 290	290	< 570	560
Acenaphthene	8,700	1.1E+8	1.3E+8	NA	110	110	< 230	230	330	110	< 230	230	< 110	110	< 230	230
Acenaphthylene	ID	3.0E+6	3.2E+6	NA	< 110	110	< 230	230	< 110	110	< 230	230	< 110	110	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 110	110	< 230	230	230	110	< 230	230	< 110	110	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 110	110	< 230	230	420	110	< 230	230	< 110	110	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 230	230	< 460	460	370	220	< 460	460	< 230	230	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 230	230	< 460	460	480	220	< 460	460	< 230	230	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 230	230	< 460	460	240	220	< 460	460	< 230	230	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230	< 460	460	< 230	220	< 460	460	< 230	230	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 110	110	< 230	230	430	110	< 230	230	< 110	110	< 230	230
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 230	230	< 460	460	< 220	220	< 460	460	< 230	230	< 450	450
Fluoranthene	3,300	1.0E+9	1.3E+8	NA	170	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	150	110	< 230	230	460	110	< 230	230	< 110	110	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 230	230	< 460	460	280	220	< 460	460	< 230	230	< 450	450
Naphthalene	790	4.7E+5	5.2E+7	NA	7,500	110	< 230	330	1,300	110	< 230	230	< 110	110	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	220	110	< 230	230	1,100	110	< 230	230	< 110	110	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	150	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(GX)	NLV	9.0E+5	NA	2.3	1	6.7	1	12	1	6.6	1	1.8	1	6.4	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-16 (4-6)	SB-16 (17-19)	SB-17 (4-6)	SB-17 (12-14)	SB-18 (4-6)	SB-18 (13-15)
					2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012
VOLATILE ORGANIC COMPOUNDS (VOCs)										
Date Analyzed					2/9/2012	2/7/2012	2/7/2012	2/7/2012	2/7/2012	2/7/2012
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1.100	1.100	< 72	72	< 65	65
1,2,4-Trimethylbenzene	370	1.1E+5	1.1E+5	1.1E+5	1.900	1.100	< 72	72	< 65	65
1,3,5-Trimethylbenzene	1.100	94.000	94.000	94.000	< 1.100	1.100	< 72	72	< 65	65
Benzene	4.000	8.400	4.0E+5	4.0E+5	< 1.100	1.100	< 72	72	< 65	65
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 1.100	1.100	< 72	72	< 65	65
m & p- Xylene	NPC	NPC	NPC	NPC	< 2.200	2.200	< 140	140	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 1.100	1.100	< 72	72	< 65	65
o- Xylene	NPC	NPC	NPC	NPC	< 1.100	1.100	< 72	72	< 65	65
Toluene	5.400	2.5E+5	2.5E+5	2.5E+5	< 1.100	1.100	< 72	72	< 65	65
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 3.300	3.300	< 212	212	< 195	195
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)										
Date Analyzed					2/24/2012	2/24/2012	2/24/2012	2/24/2012	2/24/2012	2/24/2012
Analytical Method No.					EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
2-Methyl naphthalene	4.200	4.9E+6	2.6E+7	NA	< 15,000	15,000	< 3,000	3,000	< 290	290
Acenaphthene	8.700	3.5E+8	1.5E+8	NA	< 610	610	< 1,200	1,200	< 120	120
Acenaphthylene	ID	3.0E+6	3.2E+6	NA	< 610	610	< 1,200	1,200	< 120	120
Anthracene	ID	1.0E+9	7.3E+8	NA	< 610	610	< 1,200	1,200	< 120	120
Benzo[a]anthracene (Q)	NLL	NLV	80.000	NA	< 610	610	< 1,200	1,200	< 120	120
Benzo[a]pyrene (Q)	NLL	NLV	8.000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Benzo[b]fluoranthene (Q)	NLL	ID	80.000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Benzo[e]pyrene (Q)	NLL	NLV	7.0E+6	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Chrysene (Q)	NLL	ID	8.000	NA	< 610	610	< 1,200	1,200	< 120	120
Dibenz[a,h]anthracene	NLL	NLV	8.000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Fluoranthene	5.300	1.0E+9	1.3E+8	NA	870	610	< 1,200	1,200	< 120	120
Fluorene	5.300	1.0E+9	8.7E+7	NA	1,200	610	< 1,200	1,200	< 120	120
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80.000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230
Naphthalene	730	4.7E+5	3.2E+7	NA	< 610	610	< 1,200	1,200	< 120	120
Phenanthrene	2.100	3.1E+6	3.2E+6	NA	670	610	< 1,200	1,200	< 120	120
Pyrene	ID	1.0E+9	8.4E+7	NA	870	610	< 1,200	1,200	< 120	120
INORGANICS AND METALS										
Date Analyzed					2/9/2012	2/7/2012	2/7/2012	2/7/2012	2/14/2012	2/14/2012
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020
Collection Method					GS	GS	GS	GS	GS	GS
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	35	1	13	1	6.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s), RL raised.

I = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Italic indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-19 (3-5)	SB-19 (10-12)	SB-20 (3-5)	SB-20 (10-12)	SB-21 (4-6)	SB-21 (10-12)						
					2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012						
DATE COLLECTED																
VOLATILE ORGANIC COMPOUNDS (VOCs)																
DATE ANALYZED																
ANALYTICAL METHOD NO.																
COLLECTION METHOD																
TARGET COMPOUNDS (ug/L)																
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	1,700	300	< 60	60	< 61	61	< 61	61
1,2,4-Trimethylbenzene	370	1.1E+5	1.1E+5	1.1E+5	< 67	67	< 64	64	2,900	500	< 60	60	< 61	61	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 67	67	< 64	64	1,600	500	< 60	60	< 61	61	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 67	67	< 64	64	610	500	< 60	60	< 61	61	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 67	67	< 64	64	1,900	500	< 60	60	< 61	61	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	< 1,000	1,000	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 197	197	< 194	194	< 1,500	1,500	< 180	180	< 181	181	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA's)																
DATE ANALYZED																
ANALYTICAL METHOD NO.																
COLLECTION METHOD																
TARGET COMPOUNDS (ug/L)																
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 590	590	< 570	570	11,000	580	< 560	560	< 570	570	< 560	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	5.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[b,h,j]perylene	NLL	NLV	7.0E+6	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Chrysene (Q)	NLL	ID	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Dibenz[a,h]anthracene	NLL	ID	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Fluorene	5,500	1.0E+9	8.7E+7	NA	240	230	< 230	230	460	230	< 220	220	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	3,400	230	< 230	220	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	300	230	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
DATE ANALYZED																
ANALYTICAL METHOD NO.																
COLLECTION METHOD																
TARGET COMPOUNDS (ug/L)																
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.4	1	5.9	1	7.5	1	5.3	1	5.9	1	5.9	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSLs.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-22 (4-6)		SB-22 (10-12)		SB-23 (4-6)		SB-23 (12-14)		SB-24 (4-6)		SB-24 (10-12)	
					2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/2/2012	2/2/2012				
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	2/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/9/2012		2/9/2012		2/9/2012	
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	3.500	67	120	63	26,000	950	< 59	59	2,600	66	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	15,000	270	460	63	56,000	950	< 59	59	11,000	66	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	3,500	67	120	63	18,000	950	< 59	59	3,200	66	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	2,400	67	< 63	63	< 950	950	< 59	59	470	66	< 61	61
Ethyl benzene	350	1.4E+5	1.4E+5	1.4E+5	2,500	67	81	63	6,000	950	< 59	59	1,000	66	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	3,500	130	< 130	130	23,000	1,900	< 120	120	3,900	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 63	63	13,000	950	< 59	59	< 66	66	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	3,567	197	< 193	193	36,000	1,850	< 179	179	3,966	196	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)																
Date Analyzed	2/16/2012		2/16/2012		2/20/2012		2/16/2012		2/16/2012		2/16/2012		2/16/2012		2/16/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 570	580	13,000 (F)	14,000	< 550	550	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Fluorene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	2,300	230	< 230	230	6,400	5,600	< 220	220	1,200	230	< 230	230
Phenanthrene	2,100	3.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed	2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012	
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	7.2	1	6.3	1	3.1	1	4.3	1	6.2	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 S = Result and RL are estimated due to low continuing calibration standard criteria failure.
 D = Analyte value quantified from a dilution(s); RL missed.
 J = Analyte was positively identified. Value is an estimate.
 P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.
 Bolded indicates concentration exceeds laboratory method detection limit.
 Shaded indicates concentration exceeds one or more applicable RBSL.
 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-25 (4-6)		SB-25 (10-12)		SB-26 (2-4)		SB-26 (12-14)		SB-27 (4-6)		SB-27 (14-16)	
					2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012	2/2/2012		
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	3/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/10/2012		2/10/2012		2/10/2012	
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	340	61	< 62	62
1,2,4-Trimethylbenzene	370	1.1E+5	1.1E+5	1.1E+5	< 62	62	71	61	< 60	60	< 63	63	380	61	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 62	62	< 61	61	< 60	60	< 63	63	440	61	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 62	62	< 61	61	61	60	< 63	63	350	61	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 120	120	< 120	120	< 130	130	350	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	230	61	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 182	182	< 181	181	< 180	180	< 193	193	580	181	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA's)																
Date Analyzed	2/16/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/19/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	1,400	570	< 560	560	2800	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[e]pyrene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Fluorene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Naphthalene	730	4.7E+5	3.2E+7	NA	< 230	230	< 230	230	410	230	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	3.1E+6	3.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed	2/14/2012		2/14/2012		2/10/2012		2/14/2012		2/9/2012		2/14/2012		2/14/2012		2/14/2012	
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G.X)	NLV	9.0E+5	NA	6.7	1	5.7	1	5.4	1	4.1	1	6.4	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 S = Result and RL are estimated due to low continuing calibration standard criteria failure.
 D = Analyte value quantified from a dilution(s); RL raised.
 J = Analyte was positively identified. Value is an estimate.
 P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.
Bolded indicates concentration exceeds laboratory method detection limit.
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 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-28 (6-7)		SB-29 (9-10)		SB-30 (2-4)		SB-30 (9-10)	
					2/2/2012		2/2/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)												
Date Collected					2/14/2012		2/10/2012		2/10/2012		2/10/2012	
Date Analyzed					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Analytical Method No.					GS		GS		GS		GS	
Collection Method					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
TARGET COMPOUNDS (ug/L)												
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	360	65	< 65	65	98,000	5,300	< 63	63
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	480	65	< 65	65	400,000	5,300	< 63	63
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	160	65	< 65	65	120,000	5,300	< 63	63
Benzene	4,000	8,400	4.0E+5	4.0E+5	65	65	< 65	65	4,500	5,300	< 63	63
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 65	65	< 65	65	66,000	5,300	< 63	63
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	290,000	11,000	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65	< 65	65	< 5,300	5,300	< 63	63
o - Xylene	NPC	NPC	NPC	NPC	< 65	65	< 65	65	32,000	5,300	< 63	63
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65	< 65	65	< 5,300	5,300	< 63	63
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 195	195	< 195	195	322,000	16,300	< 193	193
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA)												
Date Analyzed					2/21/2012		2/19/2012		2/21/2012		2/19/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 14,000	14,000	< 570	570	18,000	3,000	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Chrysene (Q)	NLL	ID	8.0E+5	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Dibenz[a,h]anthracene	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Indene(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 5,700	5,700	< 230	230	15,000	1,200	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
INORGANICS AND METALS												
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/10/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	15	1	5.7	1	6.2	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s), RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSLs.

Analytical results are only shown for analytes that were detected.

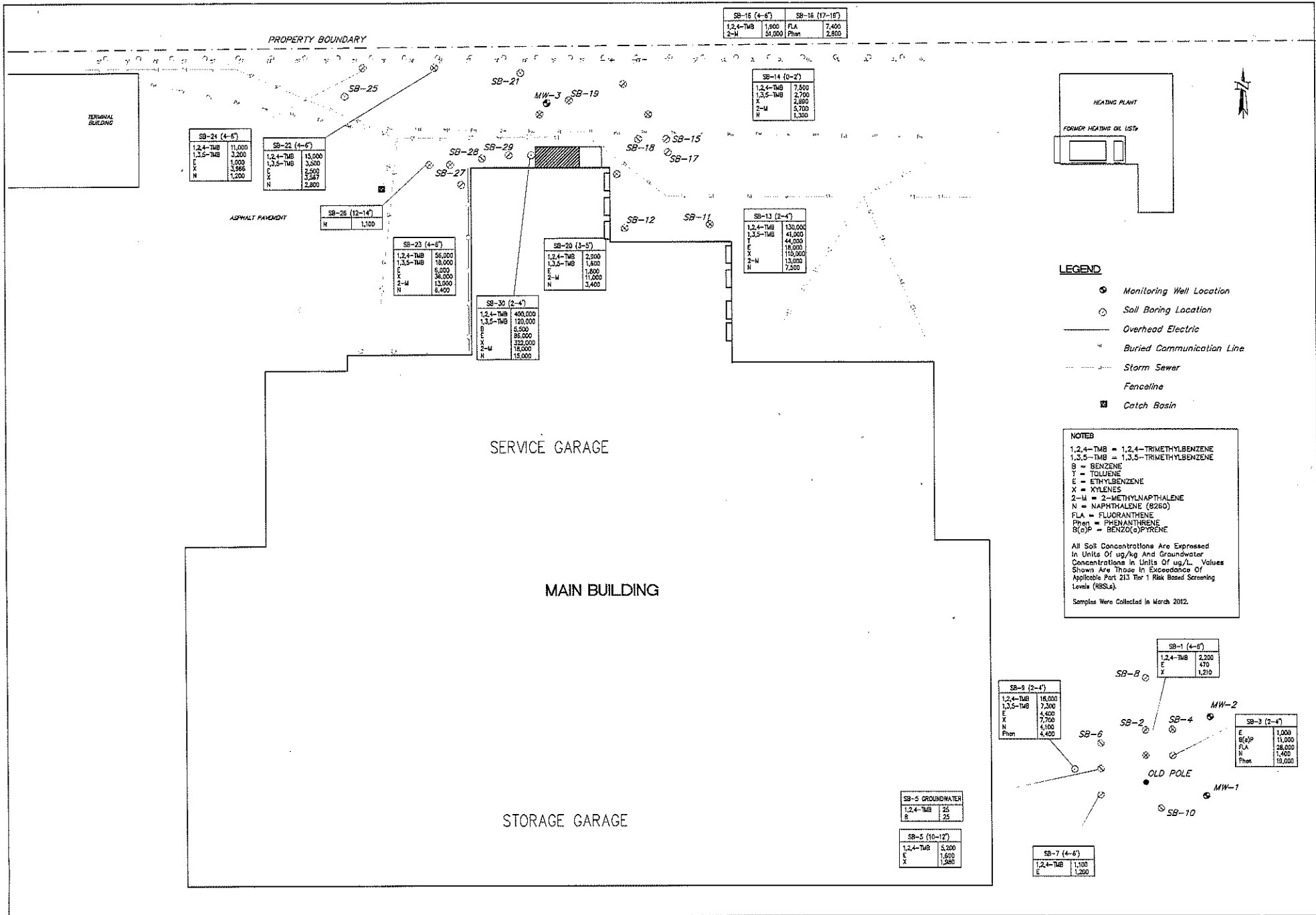
DRAFT

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 3
GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	SB-5		SB-17		SB-18		MW-1		MW-2		MW-3		
				1/30/2012		2/1/2012		2/7/2012		2/8/2012		2/8/2012		2/8/2012		
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	2/2/2012		2/8/2012		2/7/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012	
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	8.9	1	< 1	1	< 1	1	1.2	1	< 1	1	< 1	1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	56,000 (S)	25	1	< 1	1	< 1	1	2.5	1	1.8	1	< 1	1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	61,000 (S)	3.9	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
Benzene	5.0 (A)	35,000	11,000	11,000	25	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
Ethyl benzene	18	1.7E+5 (S)	1.7E+5 (S)	1.7E+5 (S)	12	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
m & p - Xylene	NPC	NPC	NPC	NPC	12	2	< 2	2	< 2	2	< 2	2	< 2	2	< 2	2
o - Xylene	NPC	NPC	NPC	NPC	5.4	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	1.9E+5 (S)	17.4	3	< 3	3	< 3	3	< 3	3	< 3	3	< 3	3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed	2/8/2012		2/13/2012		2/13/2012		2/23/2012		2/23/2012		2/23/2012		2/23/2012		2/22/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Fluoranthene	1.6	210 (S)	210 (S)	210 (S)	0.9 (T)	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
Naphthalene	11	31,000 (S)	31,000 (S)	31,000 (S)	4	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
Pyrene	ID	140 (S)	140 (S)	140 (S)	1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1
INORGANICS AND METALS																
Date Analyzed	2/7/2012		2/8/2012		6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8	
Analytical Method No.	6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8		6020/200.8	
Collection Method	GS		GS		GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	ID	ID	86	1	1.5	1	1.5	1	16	1	1	1	13	1

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 Bolded indicates concentration exceeds laboratory method detection limit.
 Shaded indicates concentration exceeds one or more applicable RBSL.
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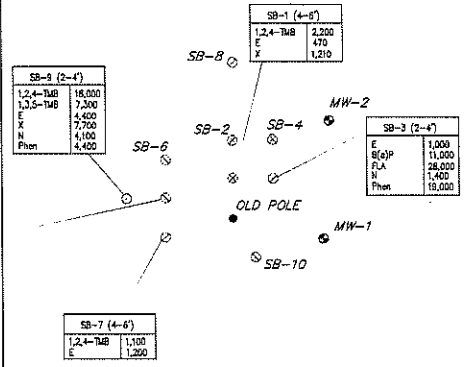
- LEGEND**
- ⊗ Monitoring Well Location
 - Soil Boring Location
 - Overhead Electric
 - Buried Communication Line
 - Storm Sewer
 - Fenceline
 - ☒ Catch Basin

NOTES

1,2,4-TMB = 1,2,4-TRIMETHYLBENZENE
 1,3,5-TMB = 1,3,5-TRIMETHYLBENZENE
 Y = TOLUENE
 B = BENZENE
 X = ETHYLBENZENE
 X = XYLENES
 2-M = 2-METHYLNAPHTHALENE
 N = NAPHTHALENE (8260)
 FLA = FLUORANTHENE
 Phen = PHENANTHRENE
 B(a)P = BENZO(a)PYRENE

All Soil Concentrations Are Expressed in Units of ug/kg And Groundwater Concentrations in Units Of ug/L. Values Shown Are Those in Exceedence of Applicable Part 213 Tier 1 Risk Based Screening Levels (RBSLs).

Samples Were Collected in March 2012.



SITE SYNOPSIS

DISTRICT QRT DATE: March 4, 2011
ACCOUNTING CODE: 44703

Site Name: Detroit Department of Transportation-Coolidge Facility
Address: 14044 Schaefer Hwy, Detroit
County: **Wayne**; Type: **Commercial**; Funding: **PRP?**
Part 213 Facility ID: 13464; 213 Site Class: 1;
Release #s: C-1332-99, C-1333-99, C-1388-99 & C-88-00

Project Manager/Presenter: Pewu Bah-deh
General Program Topic: Final Assessment Report(FAR)

Subsequent Peer Review Expected: Yes

Site Background, Summary, & Recommendations:

The site is owned by City of Detroit and it is used as City Bus Depot. The site is located in a mixed residential and commercial neighborhood. It is bounded by Schaefer on the West, Schoolcraft on the south, Lyndon on the north and Cheyenne on the east.

This facility has four (4) confirmed releases that were discovered during USTs removals and basic site investigations during 1999 and 2000. Free product was discovered in an on-site monitoring well (MW-15) during a GW monitoring event. The plumes at the site appear to be commingled. As of April 2003, when site activities stopped, a total of 6,260 cubic yards of impacted soil, 2,800 gallons, of impacted GW, and 1.9 gallons of free product had been removed and disposed of. A total of 19 USTs were removed in January 2000 but six USTs are still in used at the site.

GW & soil Contaminant concentrations (BTEX, TMBs, and PNAs) off-site exceed residential screening levels; and the on-site impacts exceed Commercial III risk-base screening levels. Off-site impacted property owners have not been notified of the migration onto their properties.

The following recommendations are made in order to address the contamination at the site.

RECOMMENDATION:

- Test the on-site monitoring wells to determine the present/absence of free product (MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, and MW-15). *Please see attached Site Sketch Map.*
- As an interim-measure, and to stop, or minimize further migration of the plumes, source removal should be conducted.
- Subsurface investigation is needed to determine if underground utilities are aiding fate & transport.
- Complete the delineation of the soil & GW plumes, especially to the north of the site.
- The August 29, 2003 FAR suggests a Bioremediation Alternative; however, it is necessary to conduct further investigation/site characterization to generate current data upon which an appropriate alternative corrective action will be based.
- Upon completion of the contaminant delineation, an appropriate corrective action should be undertaken to remedy the acute risks at the site.
- Residual contamination that will remain at the site should not exceed Commercial Land Use risk-based screening levels.
- The City of Detroit should assist the RD/Consultant to obtain off-site access to the off-site impacted properties.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Gary Simons, State Contract Administrator
Storage Tank & Contract Unit
Remediation Division

FROM: Pewu Bah-deh, State Project Manager
Remediation Division
27700 Donald Court
Warren, Michigan 48092

DATE: August 15, 2011

SUBJECT: Professional Firm to Perform Remedial Investigation/Feasibility Study at City of Detroit Department of Transportation, Site ID #: 82002470, Wayne County

The professional services of Gannett Fleming of Michigan, Inc. are requested between July 2011 and November 2012 to conduct remedial investigation and feasibility study at the above referenced project. The estimated contractual amount is \$150,000.00.

I have evaluated the suitability of this firm to conduct the described work and recommend them based upon the lack of conflict of interest and availability of staff and resources. The Professional Firm's written response to my conflict of interest inquiry is attached.

A Statement of Objectives for the project has been prepared and is also attached.

The funding source is Refined Petroleum Fund. Funding has been requested in ERNIE.

cc: Paul Owens, District Supervisor, RD
Project File

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 REMEDIATION AND REDEVELOPMENT DIVISION

Date: 07/19/2012
 Source: ERNIE

Action Plan for 82002470 City of Detroit - DOT - 14044 Schaefer - 00
 Entire Site

Page: 1 of 1

SID Facility ID	00013464	District	Southeast MI
County	Wayne	Current Funding Status	State Actions In Progress
Managing Entity	Remed. & Redev. Part 213	Closure Target	Approved Partial Closure (APC)
Project Manager	Pewu Bah-Deh	Expected Closure Date	02/28/2014

State Funding						
Program	Allocation	Authorization	Allocation Balance	Encumbrance	Expenditures	Authorization Balance
213	\$150,000	\$150,000	\$0	\$28,347	\$58,528	\$63,125
Totals:	\$150,000	\$150,000	\$0	\$28,347	\$58,528	\$63,125

Actions in Progress With Available Funds

\$150,000 allocation balance will be used for RI activities. Funds for RI encumbered 09/2011.

Additional Funding Needs

FY	Month	Activity	Amount Needed	Priority	Description
2013	October	IR	\$250,000	1	mitigate free product and grossly contaminated soils.

Action Plan Approvals

 District Supervisor/Bond Coordinator

 Date

 Field Operations Supervisor/Superfund Section Chief

 Date

 RRD Assistant Division Chief

 Date

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDATION AND REDEVELOPMENT DIVISION**

SITE SUMMARY

Site Name	City of Detroit - DOT - 14044 Schaefer	County	Wayne
Street Address	14044 Schaefer Avenue	DEQ District	Southeast MI
City	Detroit	Legislative Districts	
Site ID#	82002470	MI Senate	003
SID Facility ID	00013464	MI House	011
		US Congress	015

LOCATION

This site is located on the Northwest side of Detroit on Schaefer, just north of Schoolcraft Street. There is a salvage yard west of the site, across Schaefer. The rest of the surrounding is mostly small commercial businesses.

SITE HISTORY (Response Activities Undertaken to Date)

This site has operated as a city of Detroit Department of Transportation facility for unknown number of years. It is historically owned and managed by the city of Detroit, Department of Public Works. The site is zoned commercial and is surrounding by small commercial business establishments.

The underground storage tanks (USTs) at the site were installed between 1946 through February 2001. Of the total 24 USTs installed, 18 were either removed or closed-in-place from December 1999 to January 2000. Contents of the removed USTs included dextron, converter/oil, engine oil, used oil, gasoline, diesel, and water. The remaining six USTs are used to store diesel, gasoline, and used oil. The capacities of the 24 USTs ranged from 500 gallons to 50,000 gallons.

A total of four confirmed releases have been reported for the site (3 in 1999 and 1 in 2000). The products released consisted of diesel, gasoline, and engine oil. In 2000 a diesel transfer pipe failed and resulted in a significant release of product near the building which caused the evacuation of the building. In addition to these releases, free product was discovered in MW-15 in April 2003.

Prior to the 2000 release, 2,540 cubic yards of impacted soil and 2,800 gallons of contaminated groundwater were excavated and disposed of during USTs removal. A total of 272 gallons of free product was also recovered. The limited investigation conducted at the site indicate that 24 temporary wells and nine permanent monitor wells were installed. Soil data from some of the 24 soil borings installed, indicate that the contamination has migrated off-site, therefore, a Notice of Off-Site Migration was filed with the DEQ.

Reports submitted to the DEQ to date include an Initial Assessment Report, a Final Assessment Report, and two Free Product Status Reports. The site is currently considered out of compliance with Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Response Act, Act 451 of 1994, as amended. The city of Detroit has not conducted any response actions since 2003. The city has been determined to be a non-viable liable party.

SITE STATUS (Risks Requiring Action)

Extensive free product is present at the site and the extent is not defined. Overall, the extent of soil contamination has not been defined. Additional remedial investigations are needed to determine the risks posed by the free product and heavily impacted soils to off-site properties. Assessment of the vapor intrusion pathway is needed.

An LOE has been retained to conduct the remedial investigations and feasibility study. To date, site access has been obtained, and soil borings have been conducted. Soil and groundwater samples were submitted to labs and the resulting analytical data shows elevated levels of volatiles and PNAs. DRO and GRO concentrations were in the order of 500,000 and 3,500,000 respectively. LOE is currently preparing the Remedial Investigation/Feasibility Report.

STATE FUNDS ALLOCATED FOR CLEANUP ACTIVITIES*: \$150,000.00

*State funds are set aside to complete activities at this site but may not be expended.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION AND REDEVELOPMENT DIVISION

Date: 07/19/2012
Source: ERNIE

82002470 City of Detroit - DOT - 14044 Schaefer

Site Action Plan

III. OVERALL SITE OBJECTIVES & IMPLEMENTATION SCHEDULE

Objectives Activities	Comp	Previous Time Frame	Current Time Frame	Additional Funds Needed (not allocated)	Comments
Remedial Investigation	<input type="checkbox"/>	07/11 - 11/12	07/11 - 11/12	\$0.00	Obtain Loe and Conduct RI
Encumber funds for LOE	<input checked="" type="checkbox"/>	07/11 - 09/11	07/11 - 09/11	\$0.00	\$150,000 has been encumbered for LOE for RI/FS.
Obtain site access	<input checked="" type="checkbox"/>	08/11 - 11/11	08/11 - 01/12	\$0.00	Site access obtained from the City of Detroit.
Conduct RI activities	<input type="checkbox"/>	11/11 - 11/12	11/11 - 11/12	\$0.00	define extent of contamination
Interim Response	<input type="checkbox"/>	12/12 - 09/13	12/12 - 09/13	\$250,000.00	mitigate free product and grossly contaminated soils
Project Close out	<input type="checkbox"/>	10/13 - 02/14	10/13 - 02/14	\$0.00	Close out project; complete submittal of all necessary reports; close out contracts.
Total:				\$250,000.00	

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDATION AND REDEVELOPMENT DIVISION**

SITE SUMMARY

Site Name	City of Detroit - DOT - 14044 Schaefer	County	Wayne
Street Address	14044 Schaefer Avenue	DEQ District	Southeast MI
City	Detroit	Legislative Districts	
Site ID#	82002470	MI Senate	003
SID Facility ID	00013464	MI House	011
		US Congress	015

LOCATION

This site is located on the Northwest side of Detroit on Schaefer, just north of Schoolcraft Street. There is a salvage yard west of the site, across Schaefer. The rest of the surrounding is mostly small commercial businesses.

SITE HISTORY (Response Activities Undertaken to Date)

This site has operated as a city of Detroit Department of Transportation facility for unknown number of years. It is historically owned and managed by the city of Detroit, Department of Public Works. The site is zoned commercial and is surrounding by small commercial business establishments.

The underground storage tanks (USTs) at the site were installed between 1946 through February 2001. Of the total 24 USTs installed, 18 were either removed or closed-in-place from December 1999 to January 2000. Contents of the removed USTs included dextron, converter/oil, engine oil, used oil, gasoline, diesel, and water. The remaining six USTs are used to store diesel, gasoline, and used oil. The capacities of the 24 USTs ranged from 500 gallons to 50,000 gallons.

A total of four confirmed releases have been reported for the site, at the site (3 in 1999 and 1 in 2000). The released products consisted of diesel, gasoline, and engine oil. In 2000 a diesel transfer pipe failed and resulted in a significant release of product near the building which caused the evacuation of the building. In addition to these releases, free product was discovered in MW-15 in April 2003.

Prior to the 2000 release, 2,540 cubic yards of impacted soil and 2,800 gallons of contaminated groundwater were excavated and disposed of during USTs removal. A total of 272 gallons of free product was also recovered. The limited investigation conducted at the site indicate that 24 temporary wells and nine permanent monitor wells were installed. Soil data from some of the 24 soil borings installed, indicate that the contamination has migrated off-site, therefore, a Notice of Off-Site Migration was filed with the DEQ.

Reports submitted to the DEQ to date include an Initial Assessment Report, a Final Assessment Report, and two Free Product Status Reports. The site is currently considered out of compliance with Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Response Act, Act 451 of 1994, as amended. The city of Detroit has not conducted any response actions since 2003. The city has been determined to be a non-viable liable party.

SITE STATUS (Risks Requiring Action)

Extensive free product is present at the site and the extent is not defined. Overall, the extent of soil contamination has not been defined. Additional remedial actions are needed to determine the risks posed by the free product and heavily impacted soils to off-site properties. Assessment of the vapor intrusion pathway is needed.

STATE FUNDS ALLOCATED FOR CLEANUP ACTIVITIES*: \$150,000.00

UNMET NEED

FY	Activity	Amount Needed	Comments
2013	IR	\$250,000	mitigate free product and grossly contaminated soils.

*State funds are set aside to complete activities at this site but may not be expended.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 REMEDIATION AND REDEVELOPMENT DIVISION

Date: 05/30/2012
 Source: ERNIE

82002470 City of Detroit - DOT - 14044 Schaefer
 III. OVERALL SITE OBJECTIVES & IMPLEMENTATION SCHEDULE

Site Action Plan

Objectives Activities	Com p	Previous Time Frame	Current Time Frame	Additional Funds Needed (not allocated)	Comments
Remedial Investigation	<input type="checkbox"/>	-	07/11 - 11/12	\$0.00	Obtain Loe and Conduct RI
Encumber funds for LOE	<input type="checkbox"/>	-	07/11 - 09/11	\$0.00	\$150,000 to be encumbered for LOE
Obtain site access	<input type="checkbox"/>	-	08/11 - 11/11	\$0.00	site access needed from the City of Detroit
Conduct RI activities	<input type="checkbox"/>	-	11/11 - 11/12	\$0.00	define extent of contamination
Interim Response	<input type="checkbox"/>	-	12/12 - 09/13	\$250,000.00	mitigate free product and grossly contaminated soils
Project Close out	<input type="checkbox"/>	-	10/13 - 02/14	\$0.00	Close out project; complete submittal of all necessary reports; close out contracts.
Total:				\$250,000.00	



DETROIT DEPARTMENT OF TRANSPORTATION
1301 EAST WARREN, DETROIT, MICHIGAN 48207
GENERAL INFORMATION: (313) 933-1300
MICHIGAN VOICE RELAY: 1-800-649-3777
WWW.RIDEDETROITTRANSIT.COM



January 25, 2012

Mr. Pewu Bah-deh
Michigan Department of Environmental Quality
Remediation and Redevelopment Division
27700 Donald Court
Warren, Michigan 48092

**RE: Request for Right-of-Entry - DDOT Coolidge Bus Depot
14004 Schaefer (Ward 22/Item 029852)
Detroit, Michigan 48227**

Dear Mr. Owens:

You have requested a right-of-entry to conduct oversight of the authorized activities at the above-referenced address (hereinafter, the "Site") to be conducted by Gannett Fleming of Michigan, Inc., on behalf of the Michigan Department of Environmental Quality, as part of the Refined Petroleum Funding initiative.

Please be advised that the City of Detroit grants permission to the Michigan Department of Environmental Quality ("MDEQ") to enter the above referenced Site for the sole purpose of conducting the oversight activities described in **Exhibit A**. The City of Detroit makes no representation or warranty as to the status of title or the physical and/or environmental conditions of the Site, and access is at MDEQ's own and sole risk. This Right-of-Entry shall automatically terminate upon the completion of the work described herein, or on December 31, 2012, whichever occurs first. The City requests that MDEQ provide, without charge, any and all data, analytical results, work plans, reports, documents, or other media generated in connection with the activities.

This Right-of-Entry will be effective only upon execution of the acknowledgment and agreement noted herein by an authorized representative of MDEQ and upon delivery of same to Mr. Raymond A. Scott of the Buildings, Safety Engineering and Environmental Department.

Sincerely,

A handwritten signature in cursive script that reads "Lovevett Williams". The signature is written over a horizontal line.

Lovevett Williams
Director, Detroit Department of Transportation

Michigan Department of Environmental Quality, by its duly authorized representative, hereby acknowledges receipt of the original copy of this letter, and agrees to be bound by the terms and conditions stated herein.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

BY:  _____

(Signature)

PRINT NAME: Gerald G. Tiernan

ITS: _____

(Duly Authorized Representative)

DATE 1/27/2012

TELEPHONE NUMBER: 586-753-3818

EXHIBIT A

SCOPE OF WORK

The following is the scope of work that the Michigan Department of Environmental Quality ("MDEQ") is authorized to perform at the Site. MDEQ shall be responsible for ensuring compliance in all respects with the Scope of Work, and all applicable Federal, State, and local laws, rules, regulations, ordinances and orders.

MDEQ is only authorized to undertake the following activity at the Site:

1. conduct oversight of the authorized activities to be performed by Gannett Fleming of Michigan, Inc. at 14044 Schaefer, under their City of Detroit Right-of-Entry dated January 25, 2012, incorporated in full by reference.



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

TO: Sadi Rayyan, Design and Construction Division
Department of Technology, Management and Budget

FROM: Gary Simons, Chief, Storage Tanks & Contracts Unit
Department of Environmental Quality

DATE: October 3, 2011

SUBJECT: Gannett Fleming of Michigan, Inc.
Discretionary Contract #8010; Mod #15.0
City of Detroit - DOT - 14044 Schaefer; Site ID #82002470

Please process the attached contract modification request to add the City of Detroit - DOT - 14044 Schaefer project of the Gannett Fleming of Michigan, Inc. LOE Contract. The work conducted under this modification is a remedial investigation, as described in more detail in the attached work plan, and will cost \$66,048.16. The project period is 10/7/11 through 5/31/12. Remediation Division staff has reviewed this request and recommends that it is approved. Attached are three signed originals for processing.

If you have any questions contact me at 517-373-2811. Thank you for your assistance.

Attachment

cc: Craig Savage, GF
Pewu Bah-Deh, RD
File

AY 2010 INDEX 44701 PCA 30822 AOBJ 6127 PROJECT/PHASE U13464-00

FUNDING SOURCE: Refined Petroleum Fund

IF ADVICE OF CHANGE: DTMB Contract Order #Y _____ PO#761P _____

FUNDING VERIFIED & APPROVED BY MDEQ, RD, FINANCIAL SPECIALIST:

Contract Order

Department of Management and Budget, Facilities Administration


2nd Floor, Stevens T. Mason Building
P.O. Box 30026

Lansing, Michigan 48909

Contract Order Number: Y12009

PSC Contract

Department Enviromental Quality	File No: 761 / 12018 . BDH
Agency/Institution: DEQ/ City of Detroit DOT	Project Name: Conduct a remedial investigation to determine product contamination
Location: Detroit	Project Scope:

Name and Address of Contractor Gannett Fleming of Michigan, Inc. 44099 Plymouth Oaks Blvd, Suite 102 Plymouth MI 481706527	Approval  Facilities Administration	Date <u>OCT 07 2011</u>
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NOTICE TO CONTRACTOR: A. This CONTRACT serves as official notice that the State of Michigan will enter into a contract for the service or work described below and performed under the conditions of the respective CONTRACT. The order will not become effective until such a contract is executed. (AUTHORITY: 1984 PA311). B. The order number, account number, and name must be referenced when submitting billings for or correspondence about this order. C. A request for payment for service or work either partial or final, must be submitted on a Payment Request form (DMB-440). The payment request must be appropriately supported in sufficient detail to explain and justify the amount requested. D. A CONTRACT CHANGE ORDER (DMB-403) must be approved and processed before payment will be made in excess of the amount(s) indicated. No payment can be processed without federal identification or social security numbers.

Limited to the services and amounts indicated below **Description of Service or Work**
Professional services for: phase 100 professional services associated with the City of Detroit DOT – Remedial Investigation and Feasibility Study, Detroit, Michigan

Service		Compensation not to exceed	Multiplier	Total Compensation
PH 100 FEE	Direct Payroll	\$48,698.16	1	\$48,698.16
PH 100 REIM	Reimbursable	\$17,360.00	1	\$17,360.00
				\$66,048.16
PH 200 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 200 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 300 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 300 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 400 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 400 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 500 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 500 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 600 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 600 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 700 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 700 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00
PH 800 FEE	Direct Payroll	\$0.00	1	\$0.00
PH 800 REIM	Reimbursable	\$0.00	1	\$0.00
				\$0.00

Total Authorized: \$66,048.16

Approved by the **Director, Department of Management and Budget** on 10/7/2011

Agency	Index #	Fund Src.	App. Year	Amount	PCA	Object Code	Amount
761	44701	RPF	AY 10	\$66,048.16	30822	6127	
Total Index				\$66,048.16		Total:	\$66,048.16

Copies to: Contract Office, File
Company: Gannett Fleming of Michigan, Inc.
Agency: Enviromental Quality
Project Director: Bruce Hassen
Region Supervisor:

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 REMEDIATION AND REDEVELOPMENT DIVISION

Date: 05/30/2012
 Source: ERNIE

Action Plan for 82002470 City of Detroit - DOT - 14044 Schaefer - 00
 Entire Site

Page: 1 of 1

SID Facility ID	00013464	District	Southeast MI
County	Wayne	Current Funding Status	State Actions In Progress
Managing Entity	Remed. & Redev. Part 213	Closure Target	Approved Partial Closure (APC)
Project Manager	Pewu Bah-Deh	Expected Closure Date	02/28/2014

State Funding						
Program	Allocation	Authorization	Allocation Balance	Encumbrance	Expenditures	Authorization Balance
213	\$150,000	\$150,000	\$0	\$33,137	\$33,225	\$83,639
Totals:	\$150,000	\$150,000	\$0	\$33,137	\$33,225	\$83,639

Actions in Progress With Available Funds

\$150,000 allocation balance will be used for RI activities.

Additional Funding Needs

FY	Month	Activity	Amount Needed	Priority	Description
2013	October	IR	\$250,000	1	mitigate free product and grossly contaminated soils.

Action Plan Approvals

 District Supervisor/Bond Coordinator

 Date

 Field Operations Supervisor/Superfund Section Chief

 Date

 RRD Assistant Division Chief

 Date

DEQ An Equal Opportunity Employer

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - REMEDIATION AND REDEVELOPMENT DIVISION

INVOICE PAYMENT AUTHORIZATION**Date:** 06/08/2012**To:** Tara Grow**From:** Pewu Bah-Deh**Site ID/Name:** 82002470 City of Detroit - DOT - 14044 Schaefer**County:** Wayne**Order # (BERT):** P2200040**Vendor Name:** Gannett Fleming - LOE 2008-2012**Vendor Federal ID:**

Invoice #	Invoice Amt.	Amount Approved For Payment	Period Covered Begin Date	Period Covered End Date
951-4609	\$2,314.29	\$2,314.29	03/24/2012	05/04/2012
Totals:	\$2,314.29	\$2,314.29		

AY	Index	PCA	Proj #/ Phase	Amount	Percent
2010	44701	30822	U13464/00	\$2,314.29	100.0000
			Totals:	\$2,314.29	100

In accordance with the contract documents, based on on-site observations and the data comprising the subject invoice, the Project Director certifies that work has progressed to the point indicated; that to the best of the Project Director's knowledge, information and belief, the quality of the work is in accordance with the contract documents; and that the contractor is entitled to payment of the amount approved.

Authorized By: Pewu Bah-Deh**Comments**

CC: Mail to Professional Management Firm Identified Above

INVOICE(S) ABOVE HAS/HAVE BEEN PROCESSED FOR PAYMENT

DEQ An Equal Opportunity Employer

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - REMEDIATION AND REDEVELOPMENT DIVISION

INVOICE PAYMENT AUTHORIZATION**Date:** 06/20/2012**To:** Tara Grow**From:** Pewu Bah-Deh**Site ID/Name:** 82002470 City of Detroit - DOT - 14044 Schaefer**County:** Wayne**Order # (BERT):** P2200040**Vendor Name:** Gannett Fleming - LOE 2008-2012**Vendor Federal ID:**

Invoice #	Invoice Amt.	Amount Approved For Payment	Period Covered Begin Date	Period Covered End Date
951-4629	\$2,475.35	\$2,475.35	05/05/2012	06/01/2012
Totals:	\$2,475.35	\$2,475.35		

AY	Index	PCA	Proj #/ Phase	Amount	Percent
2010	44701	30822	U13464/00	\$2,475.35	100.0000
			Totals:	\$2,475.35	100

In accordance with the contract documents, based on on-site observations and the data comprising the subject invoice, the Project Director certifies that work has progressed to the point indicated; that to the best of the Project Director's knowledge, information and belief, the quality of the work is in accordance with the contract documents; and that the contractor is entitled to payment of the amount approved.

Authorized By: Pewu Bah-Deh**Comments**

CC: Mail to Professional Management Firm Identified Above

INVOICE(S) ABOVE HAS/HAVE BEEN PROCESSED FOR PAYMENT



Gannett Fleming

Excellence Delivered As Promised

April 11, 2013
File # 54910.001

Mr. Pewu Bah-Deh
Michigan Department of Environmental Quality
Remediation & Redevelopment Division
Southeast Michigan District Office
27700 Donald Court
Warren, Michigan 48092

Re: *DDOT Schaefer Hwy Bus Depot - DRAFT*

Dear Mr. Bah-Deh,

Gannett Fleming of Michigan, Inc. (Gannett Fleming) was tasked by the Michigan Department of Environmental Quality – Remediation & Redevelopment Division (MDEQ-RRD) to complete sub-slab soil gas probe installation and sampling at the City of Detroit-DOT property, located at 14044 Schafer Highway in Detroit, Wayne County, Michigan (Figure 1). This Technical Memorandum provides a summary of previous work completed at the Site, a description of the investigation activities conducted in March 2013, and the results of these activities.

Sub-Slab Probe Installation and Sampling

On March 12, 2013, Gannett Fleming installed five sub-slab sampling points at the Site, three along the inside of the north garage building wall and two along the inside of the west building wall. These were installed to determine whether residual contaminants in soil could pose an indoor air inhalation risk to users of the building. The sub-slab sampling was conducted in general accordance with the MDEQ's *Draft - Guidance Document for the Vapor Intrusion Pathway*, May 2012, submitted to and approved by the MDEQ. The locations of the sampling points are depicted on Figure 2.

The sub-slab sampling points were installed directly below the concrete slab with a 3 inch screened interval. The borehole was drilled using a hand held rotary hammer drill with a 1 inch diameter drill bit. When the implant was installed, a 1 inch diameter stopper plug was used to seal the screened interval from the surface. Grout was used around the outside of the stopper plug to ensure a good seal. The implant was covered with a cone until sampling. After sampling, the sub-slab probes were removed and the concrete was repaired to its original condition.

Gannett Fleming collected all five sub-slab soil gas samples from the newly installed sampling

Gannett Fleming of Michigan, Inc.

Plymouth Oaks Business Center II • Suite 102 • 44099 Plymouth Oaks Blvd. • Plymouth, MI 48170

t: 734.459.6955 • f: 734.459.6720

www.gannettfleming.com

points on March 14, 2013. Prior to sampling, three volumes of air were purged from the point using a 30cc syringe connected to a three-way valve. A valve and tubing system was affixed to the implant and connected to a pass through valve on a plastic "dome" that was sealed to the floor and filled with helium, to be used as a tracer compound. The helium was inserted into the dome through a separate valve mechanism. If no helium was detected in the tubing during the pre-sampling test, the soil gas sample would then be collected.

Soil gas samples were collected with laboratory supplied amber glass bottles equipped with a pressure gauge and regulator. The sample train was removed and the sampling bottle was connected directly to the sampling point with a section of polyethylene tubing. Sampling was completed when the pressure gauge read 0.0 inches of mercury (in Hg). After each sample was collected, the air inside the sample train was purged for at least five minutes using a small pump. This was done in an attempt to reduce the possibility of cross contamination between samples. The soil gas samples were delivered to the MDEQ Laboratory, located in Lansing, Michigan (MDEQ Laboratory) following Gannett Fleming's chain-of-custody protocol and analyzed for volatile organic compounds (VOCs) using USEPA Method TO-15 modified.

Sub-Slab Soil Gas Sampling Results

Soil gas sampling results were compared to Sub-Slab Industrial Acceptable Soil Gas Screening Concentrations, summarized in the MDEQ's *Draft Operational Memo No. 4 Attachment 4*, dated June 2008. This memo is still under review and criteria are used as reference only. Various petroleum and chlorinated VOCs were detected above laboratory detection limits in all five soil gas samples, in both field blank samples, and in the duplicate sample; however none exceeded the applicable draft criteria. One sample from SGP-2 contained benzene concentrations equal to the RBSL. Both field blank samples contained VOC contaminants, this suggests that the samples were most likely cross contaminated. Gannett Fleming personnel used the same tubing that was connected to the helium chamber for each sample as opposed to using new tubing for each sample. The helium chamber and the tubing connected to it, should have been used for leak detection purposes only and not during the actual sample collection. Analytical results are summarized in Table 1 and the original laboratory reports are included in Attachment A.

Conclusions

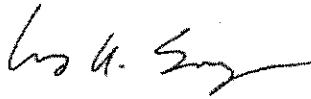
Four of the five sampling points contained VOC contaminants at generally low concentrations. Contaminants found in the sample from SGP-2 were much higher in concentration than the other four sampling points. SGP-2 was purposely sampled last, because during the probe installation, Gannett Fleming personnel could smell an unpleasant odor coming from the hole where SGP-2 was installed.

April 11, 2013
Mr. Pewu Bah-Deh
Page 3 of 3

In an effort to correct the mistake with the helium chamber apparatus and cross contamination issues, Gannett Fleming met with MDEQ staff to review the proper procedures for using the helium dome apparatus.

Please contact me at (734) 459-6955 if you have any questions or require additional information.

Sincerely,
GANNETT FLEMING OF MICHIGAN, INC.

A handwritten signature in black ink, appearing to read "Craig A. Savage". The signature is fluid and cursive, with a long horizontal stroke at the end.

Craig A. Savage, CPG.
Senior Project Manager

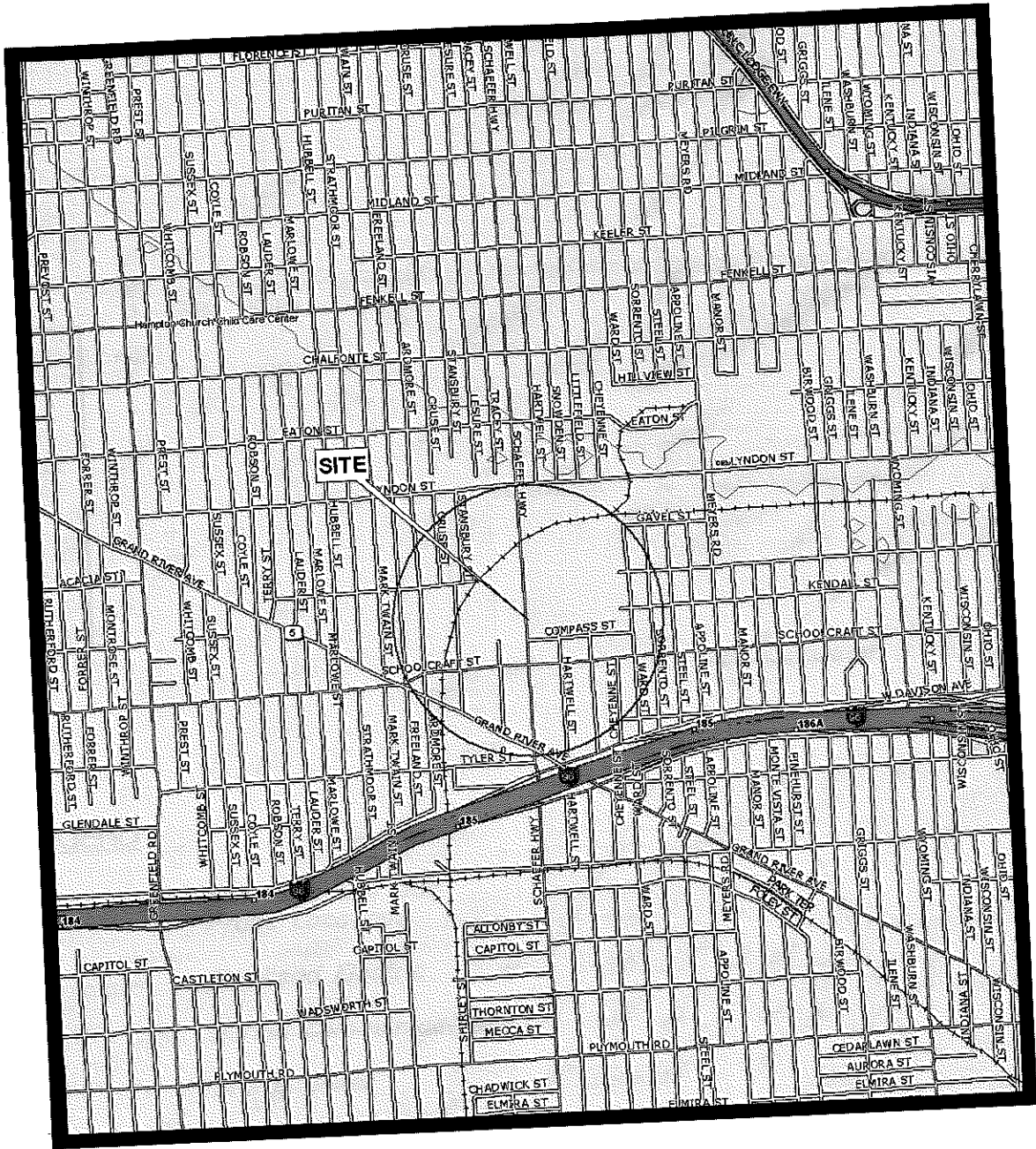
Enclosure

MDAQ - RRD
DETROIT DOT
SCHAEFER HWY BUS GARAGE

TABLE 1
SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS

Sample ID	SUB-SLAB Non-Residential Acceptable Soil Gas Screening Concentration	SGP-1		SGP-2		SGP-3		SGP-4		SGP-5		Field Blank-1		Field Blank-2		Dup-1	
		Date Collected	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013
VOLATILE ORGANIC COMPOUNDS (VOCs)																	
Date Analyzed		3/25/2013	3/25/2013	3/27/2013	3/27/2013	3/27/2013	3/27/2013	3/27/2013	3/27/2013	3/20/2013	3/28/2013	3/27/2013					
Analytical Method No.		TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified	TO-15 Modified					
Collection Method		GS	GS	GS	GS	GS	GS	GS	GS	GS	GS	GS					
TARGET COMPOUNDS (ug/m³)		Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,4-Trimethylbenzene	1.3E+05	< 14	14	1,200	14	5.7	14	2.2	14	6.5	14	4.0	14	5.70	14	12	14
1,3,5-Trimethylbenzene	1.3E+05	< 14	14	650	14	2.2	14	1.5	14	2.6	14	1.4	14	260	14	6.1	14
1,4-Dichlorobenzene	2.6E+03	< 18	18	< 18	18	< 1.8	18	< 1.8	18	< 1.8	18	< 1.8	18	< 1.8	18	< 1.8	18
2,2,4-Trimethylpentane	2.0E+05	230	14	25,000	690	3.3	14	5.8	14	3.5	14	1.4	14	680	14	240	14
Acetonitrile	3.9E+04	< 16	16	63	16	< 1.7	16	1.7	16	< 1.7	16	< 1.6	16	1.7	16	1.7	16
Benzene	2.2E+03	< 9.4	9.4	2,200	9.4	3.8	9.4	0.95	9.4	< 0.95	9.4	1.2	9.4	99	9.4	3.2	9.4
Chloroform	7.6E+03	< 14	14	< 14	14	2.7	14	< 1.4	14	4.4	14	< 1.4	14	< 14	14	< 1.4	14
Chloroethane	2.9E+04	< 6.1	6.1	< 6.1	6.1	0.83	6.1	< 0.61	6.1	0.61	6.1	0.79	6.1	< 6.1	6.1	0.8	6.1
Dichlorodifluoromethane	2.9E+07	< 15	15	< 15	15	1.7	15	< 1.5	15	< 1.5	15	1.7	15	< 1.5	15	< 1.5	15
Ethylbenzene	5.9E+04	< 13	13	2,900	13	3.5	13	1.4	13	1.6	13	3.5	13	320	13	51	13
Hexane	4.1E+05	< 34	34	18,000	13	3.5	34	< 3.5	34	< 3.5	34	< 3.5	34	3.5	34	51	34
m & p-Xylene	NPC	< 13	13	10,000	640	12	13	5.9	13	1.3	13	6.5	13	1,800	13	56	13
Methylene chloride	3.9E+04	< 10	10	< 10	10	< 1.0	10	< 1.0	10	< 1.0	10	< 1.0	10	< 10	10	< 1.0	10
o-Xylene	NPC	< 13	13	2,700	13	4.7	13	2.5	13	8.3	13	2.6	13	600	13	20	13
Tetrachloroethylene	2.3E+04	< 20	20	< 20	20	2.0	20	< 2.0	20	< 2.0	20	< 2.0	20	< 20	20	< 2.0	20
Toluene	2.9E+06	12	11	3,400	11	4.2	11	7.9	11	8.1	11	10	11	700	11	31	11
Trichlorofluoromethane	3.9E+07	< 16	16	< 16	16	< 1.7	16	1.7	16	< 1.7	16	< 1.7	16	< 16	16	< 1.7	16
Xylenes (total)	5.9E+04	< 26	26	12,700	653	16.7	26	8.4	26	19.3	26	9.1	26	2,400	26	76	26

NOTES:
Only detected analytes shown, see lab report for full analyte list.
ug/m³ = micrograms per cubic meter
GS = Grab Sample
RL = Reporting Limit
Bolded = Indicates concentration exceeds laboratory method detection limit



SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN

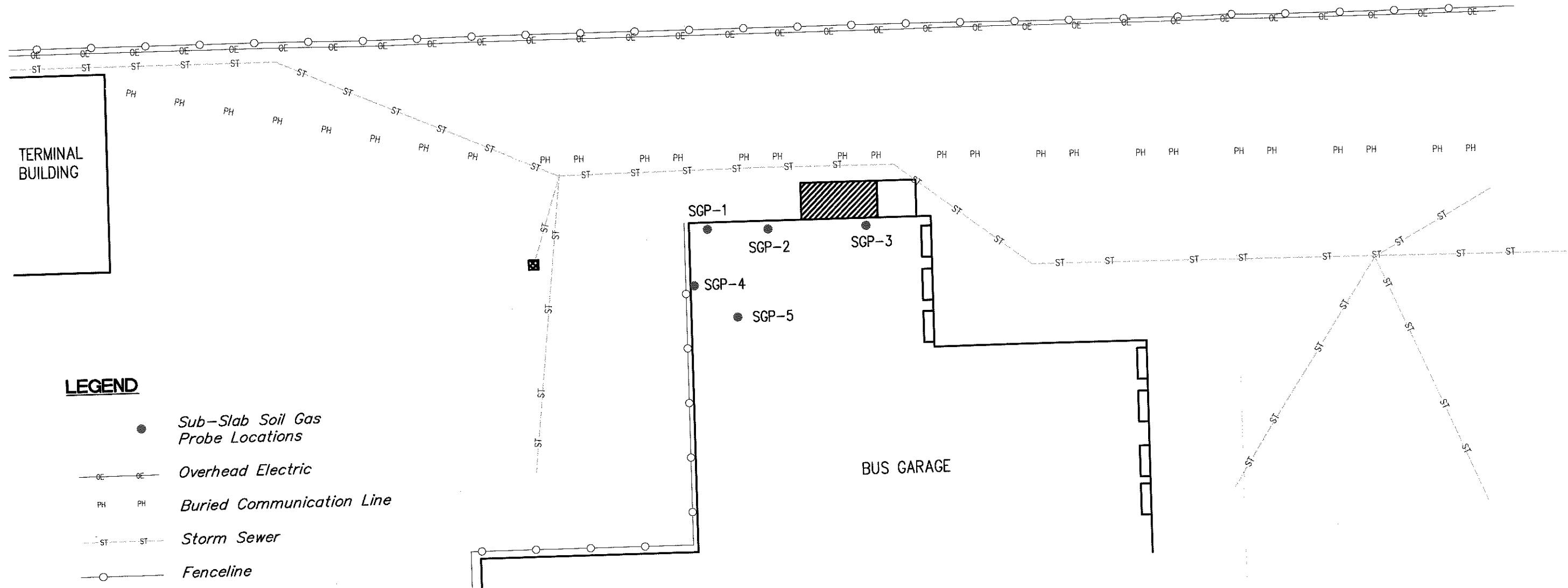


SITE LOCATION MAP

MDEQ-RD
CITY OF DETROIT - 14044 SCHAEFER
DETROIT, MICHIGAN



COMMERCIAL WAREHOUSE & SHIPPING



LEGEND

- Sub-Slab Soil Gas Probe Locations
- Overhead Electric
- Buried Communication Line
- Storm Sewer
- Fenceline
- ⊠ Catch Basin



**SUB-SLAB
SOIL GAS PROBE
LOCATIONS**
MDEQ-RRD
CITY OF DETROIT (DDOT)
DETROIT, MICHIGAN



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION DIVISION
SOUTHEAST MICHIGAN DISTRICT OFFICE
27700 DONALD COURT
WARREN, MICHIGAN 48092**

**SUBSURFACE INVESTIGATION AND FEASIBILITY STUDY
CITY OF DETROIT – DOT
14044 SCHAEFER HIGHWAY
DETROIT, WAYNE COUNTY,
MICHIGAN**

PROJECT #54910

October 2012

Office Location:
Gannett Fleming of Michigan, Inc.
44099 Plymouth Oaks Boulevard, Suite 102
Plymouth, MI 48170

Office Contacts:
Craig Savage, C.P.
Martha Hannah, P.E.
Phone 734-459-6955

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APPENDICES

APPENDIX A	Boring Logs
APPENDIX B	Analytical Reports

1.0 INTRODUCTION

The Michigan Department of Environmental Quality (MDEQ) retained Gannett Fleming of Michigan Inc. (Gannett Fleming) to conduct a limited subsurface investigation and evaluate remedial options to address contamination at the City of Detroit-DOT property, located at 14044 Schafer Highway in Detroit, Wayne County, Michigan (Figure 1). Due to recent financial hardship, the City of Detroit cannot conduct remedial activities and has been deemed a non-viable liable party. The State of Michigan has opted to take over the site characterization and remedial action at the site and has authorized Gannett Fleming to conduct remedial activities under the Level of Effort contract mechanism. This work was authorized by the Michigan Department of Technology, management & Budget under Purchase Order 761P2200040, dated October 7, 2011.

1.1 Site Background and Description

The City of Detroit – DOT property (also known as the Coolidge Terminal Facility) was operated as a bus storage and maintenance depot by the Detroit Department of Transportation (DDOT) as recently as January 2012. The site has been inactive since January 2012 to facilitate upgrades and modifications to the terminal. The property has operated as a bus terminal since at least the mid-1940's. Features of the site at the time of this investigation include a 150,000 square foot (approx.) main building used for fueling, storage, cleaning and service/maintenance of DDOT buses, and several smaller out-buildings including an administrative building, a fare box storage building, and a boiler/heating plant building. The remainder of the site is mostly paved with concrete or asphalt (Figure 2).

The area around the site is zoned for commercial and residential uses. Adjacent properties include a salvage yard to the west (across Schaefer Highway), a trucking / shipping company to the north, and residential properties to the south and east.

1.2 Underground Storage Tank Status

According to information provided by the MDEQ, 17 underground storage tanks (USTs) were installed at the site in 1946 and two more were installed in 1979-80. These USTs ranged in size from 500 to 50,000 gallons and contained various liquids, including



diesel fuel, gasoline, engine oil, convertor oil, Dexron (transmission fluid), used oil, and water. All of these tanks were removed or closed-in-place in late 1999 and early 2000.

Six new USTs were installed at the site in 2001 to replace those removed the previous year. These USTs are still in use, and include four 25,000-gallon diesel tanks, one 10,000-gallon gasoline tank and one 1,000 gallon used oil tank.

1.3 Release History and Corrective Actions

Five confirmed releases are on file for the site: three confirmed releases were reported in December 1999, one was reported in January 2000, and the last was reported in September 2006. The 1999 release were identified during construction activities around the USTs and involved several oil, diesel and gasoline tanks. The 2000 release occurred when a diesel transfer pipe failed near the northwest portion of the garage/service building, resulting in an emergency evacuation of personnel from the building. The 2006 release was related to a leaking diesel fuel clamp. No response activities are known to have been performed in response to the 2006 release. The volumes of these releases are unknown.

Interim response and site investigation activities were conducted at the site by The Traverse Group from 1999 through 2003. During the course of these investigations, 41 soil borings were advanced, seven temporary monitoring wells were installed, and 9 permanent monitoring wells were installed. Soil sample and groundwater data from these investigations indicated that contamination had migrated off-site to the property immediately north of and adjacent to the former USTs. In April 2003, petroleum free-product, or light non-aqueous phase liquid (LNAPL), was observed in monitoring well MW-15, located directly north of the main building, near the former fuel pump house, and at the northern property line. LNAPL thickness was monitored for six months, and in ten monitoring events, never exceeded 2.76 inches. Monitoring was terminated after October 2003, when product thickness had dropped to 0.24 inches. Six other monitoring wells were included in the LNAPL monitoring events, but LNAPL was only observed in MW-15.

These investigations conducted by the Traverse Group were summarized in the following reports:

- Initial Assessment Report (IAR) (March 20, 2000)

- Final Assessment Report (FAR) (December 31, 2001).
- Amended Final Assessment Report (AFAR) (August 29, 2003)
- Free Product Status Recovery Report (July 14, 2003)
- Free Product Status Recovery Report (October 19, 2003)

Based on information in the AFAR, 6,260 cubic yards of contaminated soil was removed during various site activities, including the closure of the former USTs and installation of the new USTs and communications line. This soil was disposed at the Waste Management Woodland Meadows facility, in Wayne, Michigan. In addition, 2,800 gallons of impacted groundwater and (estimated) 272 gallons of LNAPL were collected from the excavation pits and disposed off site.

The City of Detroit has not conducted any response activities since 2003. In 2008, the Traverse Group voluntarily waived its status as a Qualified UST Consultant, and is no longer involved with the remedial activities. According to MDEQ file notes, a Notice of Off-Site Migration was prepared and submitted to the property owner, but this could not be confirmed from information reviewed for this report.

2.0 OBJECTIVES

The primary objectives of the work at the site were determined during several meetings and communications with the MDEQ. These objectives are summarized below:

- Determine the nature and extent of soil and groundwater contamination at the site.
- Determine the present location of light non-aqueous phase liquid (LNAPL, or free product), if present, at the site.
- Assess the potential for and risk due to vapor intrusion into the on-site main building.
- Identify alternatives for remediating the LNAPL source area and the soil and groundwater contamination at the site.

During a September 21, 2011 meeting with the MDEQ, it was agreed that the initial phase of work would be limited to on-site activities, and that off-site investigations would occur at a later time, as necessary.

3.0 SUMMARY OF INVESTIGATION ACTIVITIES

3.1 Geophysical Survey

On January 27, 2012, Fibertec Environmental Services (Fibertec) conducted a geophysical survey using ground penetrating radar (GPR) and electromagnetic (EM) induction. This survey was performed in areas where subsurface investigations were to be conducted to locate underground utilities not marked by the MISS-DIG one-call system and to identify locations of USTs, both active USTs and closed-in-place. The GPR produced mixed results in attempts to identifying some utilities on site due to heavy rains producing puddles and saturated soil conditions the day prior to the survey. However, the GPR equipment was able to easily identify the existing and closed in place USTs. The EM survey was more successful at identifying the communications line and other small diameter piping and cable runs within the study. These subsurface features were marked using non-toxic paint so that they could be avoided during drilling.

3.2 Subsurface Investigation and Sampling

On January 30 through February 2, 2012, under supervision of Gannett Fleming personnel, Fibertec advanced 30 direct push soil borings (SB-1 through SB-30) (Figure 2). Ten borings, SB-1 through SB-10, were placed in the area near the southeast corner of the main building where three USTs were formerly located (former SE UST area). The other 20 borings, SB-11 through SB-30, were placed in the area north of the main building where the current USTs and most of the former USTs were located (North UST area). The former USTs in the SE UST area were closed and removed, while some of the former USTs in the North UST area were closed-in-place by filling with inert material.

Each soil boring was sampled continuously from the ground surface to the terminus of the boring using a five foot long by two inch diameter macro-core barrel equipped with disposable sample liners. Soil total depths of the soil borings ranged from 10 feet to 20 feet below ground surface (bgs). The core barrels were advanced in 5 foot intervals, after which they were removed and the soil was examined by the Gannett Fleming field geologist. Soil lithology, soil appearance and presence of staining, soil odors and photoionization detector (PID) readings, and other pertinent observations were recorded on soil boring logs. Soil lithology was described using the Unified Soil Classification System (USCS). Soil boring logs are presented in Appendix A.



Soil samples were obtained at two foot intervals along the entire vertical soil column and field-screened for the presence of volatile organic compounds using a PID calibrated to a 100 parts per million (ppm) isobutylene standard gas. PID screening results were used to provide qualitative relative comparisons of contaminants in soil between borings and depth intervals. PID results were also used to select the soil samples that would be submitted to the analytical laboratory for detailed analyses. The PID readings are included on the boring logs presented in Appendix A.

Where practicable, soil samples were collected for laboratory analysis from two intervals at each boring. One sample was generally collected from the interval that had the highest PID reading and a second sample from a deeper interval with a low PID reading to vertically delineate the extent of petroleum related constituents.

Groundwater samples were collected for laboratory analysis from temporary monitoring wells at soil boring locations that produced sufficient groundwater to collect a sample. Temporary monitoring wells were constructed of 1-inch PVC casing directly installed into the soil boring. Only three of the 30 soil borings, SB-5, SB-17 and SB-18, contained sufficient groundwater to warrant installation of temporary monitoring wells and collection of groundwater samples.

A total of 58 soil samples and 3 groundwater samples were collected from the 30 soil borings advanced during this phase of the subsurface investigation. All samples were submitted to the MDEQ Environmental Laboratory in Lansing, Michigan. All soil and groundwater samples collected were analyzed for BTEX, MTBE, and TMBs by USEPA Solid Waste SW-846 Method 8260; polynuclear aromatic hydrocarbons (PNAs) by USEPA SW-846 Method 8270; and lead by USEPA SW-846 Method 6020. One soil sample, SB-3 (2-4) was analyzed for diesel range organics and gasoline range organics by USEPA SW-846 Method 8015 and for TCLP VOCs and TCLP metals. All samples were placed on ice and delivered to the laboratory following Gannett Fleming's chain-of-custody protocol. Soil and groundwater analytical results for samples collected during soil boring advancement are summarized in Tables 1 and 2 and presented graphically on Figures 3 and 4. Copies of the laboratory reports are provided in Appendix B.

3.3 Soil Gas Probe Installation

Gannett Fleming originally planned on converting soil borings SB-28, SB-29 and SB-30 to soil gas sampling points to evaluate the volatilization to indoor air vapor inhalation pathway inside the main building. Sub-slab samples inside the main building were considered unfeasible due to the high levels of ambient VOC concentrations inside the maintenance/fueling areas. Therefore, soil gas probes outside the building foundation/footer, between the USTs and the building, were deemed a more practical approach to assess this pathway. During drilling, ubiquitous shallow (< 4 feet) thick clay was found beneath the site with somewhat more permeable fill above. This clay had a porosity too low to transmit vapors to the soil gas probes, and the overlying fill was too saturation with water to allow soil gas collection. Because of these geological conditions, the soil gas probes were considered impractical for their intended use and eliminated from the investigation plan. Soil samples were collected from the terminus (10 feet bgs) of these borings in lieu of gas samples. Boring logs and analytical results from SB-28 through SB-30 are summarized in Table 1 and Figure 3 and the laboratory reports are included as Appendix B.

3.4 Groundwater Sampling-February 2012

During the subsurface investigation Gannett Fleming personnel located 3 of the 4 existing on-site permanent monitoring wells at the site (Figure 2). Two wells (MW-2 and MW-3) were located east of the SE UST area, and one (MW-7) was located in the North UST area. MW-15, which was the focus of LNAPL monitoring from 2002 through 2003, was not found at the location shown on earlier maps. Groundwater samples were collected from MW-2, MW-3 and MW-7 on February 8, 2012 following low flow groundwater sampling procedures. A peristaltic pump and disposable tubing was used to purged groundwater in each well through a flow through cell where a YSI analyzer was used to monitor water temperature, pH, ORP dissolved oxygen and conductivity. Once these parameters were stabilized for three consecutive readings, the tubing was disconnected from the flow through cell and groundwater samples were placed directly into laboratory supplied sample containers.

The three on-site monitoring well groundwater samples were submitted to the MDEQ Laboratory and analyzed for BTEX, MTBE, and TMBs by USEPA Solid Waste SW-846 Method 8260; polynuclear aromatic hydrocarbons (PNAs) by USEPA SW-846 Method 8270; and lead by USEPA SW-846 Method 6020. All samples were placed on ice and



delivered to the laboratory following Gannett Fleming's chain-of-custody protocol. Groundwater analytical results from these monitoring well samples are summarized in Table 3 and presented graphically on Figure 4. Copies of the laboratory reports are provided in Appendix B.

3.5 Groundwater Sampling-August 2012

On August 17, 2012, after obtaining access to conduct investigation activities at the Frisbie Moving & Storage (Frisbie) property, Gannett Fleming personnel returned to the site to conduct follow-up groundwater and LNAPL monitoring activities at the DDOT property and the off-site Frisbie property. Field staff again attempted to locate MW-15 using an electromagnetic wand to detect the steel well cover. After extensive probing and searching, MW-15 still could not be found. The presence of relatively new concrete over the area where MW-15 was supposed to be located suggests that MW-15 may have been covered or destroyed during various site modifications since 2003.

The five off-site monitoring wells installed in 2002 (MW-10, MW-11, MW-12, MW-13, and MW-14) were located in the Frisbie Moving & Storage parking lot. These five wells and the three on-site wells (MW-2, MW-3 and MW-7) were sampled on August 17, 2012, following low flow groundwater sampling procedures, as described above. A peristaltic pump or bladder pump with disposable tubing was used to purged groundwater in each well and collect the samples

The eight monitoring well groundwater samples were submitted to the MDEQ Laboratory and analyzed for BTEX, MTBE, TMBs and polynuclear aromatic hydrocarbons (PNAs) as described above. Groundwater analytical results from these monitoring well samples are summarized in Table 3 and presented graphically on Figure 4. Copies of the laboratory reports are provided in Appendix B.

3.6 LNAPL Gauging

LNAPL was not detected in any of the monitoring wells identified on the site. A separate recovery sump containing used oil was identified on site, but this sump was an integrated component of an oil-water separator skimmer recovery system. At the time of the subsurface investigation LNAPL was not observed in any of the borings drilled and it did not appear to be migrating away from the oil water separator and recovery

sump. Monitoring well MW-15, which reportedly contained 0.1-0.2 inches of free product in 2003 could not be found, and is believed to be buried or destroyed.

4.0 DISCUSSION OF ANALYTICAL RESULTS

The analytical results from the limited subsurface investigation were compared to Part 213 Tier I non-residential risk based screening levels (RBSLs) for soil and groundwater under Michigan 1994 P.A. 451, as amended. Although residential properties border the site to the south and east, the areas where contamination are present are a considerable distance from these properties, and the areas of investigation are not likely to be repurposed for residential use in the foreseeable future.

The Tier I non-residential RBSLs were used for an initial comparison during this investigation, with the understanding that these RBSLs may not be appropriate at very high concentrations where LNAPL may be present.

Soil pathways considered relevant for this site included groundwater-surface water interface protection (GSIP), soil volatilization to indoor air inhalation (SVIAI), and direct contact (DC). While not specifically a pathway, the soil saturation concentration screening levels (CSAT) were included to evaluate the potential for LNAPL to be present. It should be noted that the CSAT values are applicable only to single compound concentrations, and may not be valid where chemical mixtures are present.

Groundwater pathways considered relevant for this site included groundwater-surface water interface (GSI), volatilization to indoor air inhalation (VIAI), and groundwater contact (GDC). Drinking water is not considered relevant at this site because the entire area is serviced by municipal water and is in an area where groundwater is not considered to be in an aquifer, and hence is not a potable source.

4.1 Soil Analytical Results

Analytical data from soil samples collected during the subsurface investigation indicated 14 of 30 soil borings contain concentrations of VOCs and/or PNAs above Part 213 RBSLs for relevant pathways (Figure 3). The samples collected from SB-13(2-4) and SB-30(2-4) exceeded the GSIP, SVIAI, DC, and CSAT RBSLs. All other samples exceeded only the GSIP RBSL. Most of the samples with elevated concentrations and

levels above RBSLs were collected from the upper 2 to 6 feet of fill material, or from the shallowest part of the clay unit. The contamination appears to be distributed to shallow depths, possibly indicative of surface spills of petroleum infiltrating through cracks in the concrete or releases from shallow pipelines accumulating in the fill or on top of the clay directly below the concrete surface. One sample, SB-3(2-4), was analyzed for diesel range organics (DRO) and oil range organics (ORO). DRO results were 500,000 $\mu\text{g}/\text{kg}$ (500 mg/kg) and ORO results were 3,500,000 $\mu\text{g}/\text{kg}$ (3,500 mg/kg). These are relatively high values and could be indicative of remnant diesel fuel LNAPL in soil pore spaces.

4.2 Groundwater Analytical Results

Six groundwater samples were collected in January-February 2012: three were collected from soil borings (SB-5, SB-17 and SB-18) and the remaining three were collected from the on-site monitoring wells (MW-2, MW-3, and MW-7). The sample collected from SB-5 was the only groundwater sample containing any compound above an RBSL. 1,2,4-trimethylbenzene was reported at 25 $\mu\text{g}/\text{L}$, which is above the GSI RBSL. This sample also contained other compound, including 1,3,5-trimethylbenzene (3.9 $\mu\text{g}/\text{L}$), benzene (25 $\mu\text{g}/\text{L}$), ethylbenzene (12 $\mu\text{g}/\text{L}$), xylenes (17.4 $\mu\text{g}/\text{L}$), naphthalene (4 $\mu\text{g}/\text{L}$), and pyrene (1 $\mu\text{g}/\text{L}$), all at concentrations below the RBSLs. Trace concentrations of various trimethylbenzene compounds were detected in the samples collected from MW-2 and MW-3, but at levels below any RBSLs. None of the other groundwater samples contained VOCs, PNAs or metals above laboratory method detection limits or selected RBSLs.

Eight groundwater samples were collected from all on-site and off-site monitoring wells on August 17, 2012. Of these, only two contained petroleum hydrocarbon compounds above the laboratory method detection limit. The groundwater sample collected from MW-11 contained naphthalene at 9.9 $\mu\text{g}/\text{L}$ and benzene at 3.5 $\mu\text{g}/\text{L}$. Both of these concentrations are below the selected RBSLs. MW-11 is an off-site well located across the property line from on-site MW-15, a well which formerly contained LNAPL. The groundwater sample collected from MW-12 contained the highest concentrations of petroleum compounds, including naphthalene at 30 $\mu\text{g}/\text{L}$, benzene at 4,500 $\mu\text{g}/\text{L}$, toluene at 11 $\mu\text{g}/\text{L}$, ethylbenzene at 330 $\mu\text{g}/\text{L}$, 1,2,3-trimethylbenzene at 39 $\mu\text{g}/\text{L}$, 1,2,4-trimethylbenzene at 200 $\mu\text{g}/\text{L}$, 1,3,5-trimethylbenzene at 33 $\mu\text{g}/\text{L}$ and total xylenes at 232 $\mu\text{g}/\text{L}$. Of these, the naphthalene, benzene, ethylbenzene, 1,3,4-trimethylbenzene and



xylénes concentrations exceed the GSI RBSL. None of the other six groundwater samples collected from on-site and off-site monitoring wells contained VOCs or PNAs above laboratory method detection limits.

5.0 FEASIBILITY STUDY

5.1 Exposure Pathway Characterization

The potential sources of exposure at the facility are impacted soil and shallow groundwater. Potential transport mechanisms include volatilization and atmospheric dispersion, volatilization and closed space accumulation, soil leaching to groundwater, groundwater transport, and migration along utility corridors.

Soil or groundwater ingestion, direct contact with impacted soil or groundwater, and inhalation of volatilized constituents would be potential exposure routes. Potential receptors to the exposure routes would include construction workers, commercial utility workers, personnel working in nearby structures, and underground utilities (especially storm sewers).

5.2 Feasibility Analysis

A feasibility analysis was performed to determine the appropriate corrective action for the site. This analysis considered each option in terms of effectiveness of cleanup, duration, and cost.

5.2.1 Soil Corrective Action Alternatives

Natural Attenuation: Impacted soils could remain in-place since there is a concrete cover over all impacted areas and existing monitoring wells could be monitored on a regular basis. This alternative requires continued maintenance of the concrete and does not provide cleanup for contaminated soils detected above RBSLs along the property boundary and off-site. This alternative will not eliminate acute risks to human health and to the environment without institutional or engineering controls. Institutional controls to prevent significant changes to the land use may eventually be required and due care provisions may proscribe engineering controls to address the volatilization to indoor air inhalation pathway if it is determined to be complete. Natural attenuation is considered a viable alternative if it can be demonstrated that all relevant pathways are securely closed. The cost for this alternative is lower than other alternatives and the exposure risks to human health and the environment can be managed using institutional controls, engineering controls (e.g. indoor ventilation systems and

impermeable barriers), and monitoring (e.g. groundwater wells, soil gas points, and storm drains at the property boundaries).

Soil Excavation: Impacted soil could be excavated and removed to a disposal facility. This would require the excavation and disposal of approximately 1,000 to 2,000 cubic yards or more of soil, filling the excavated areas with clean backfill and replacing demolished concrete. The cost to conduct this alternative and replace newly installed concrete on-site and off-site is considered relatively high. The areas where soil is impacted above RBSLs are not contiguous across the site and are in areas occupied by USTs that have been closed in place, close to or under foundations, or in areas occupied by underground equipment and utilities. Excavation would be very difficult and expensive, considering that underground fuel pipes, USTs (active and closed in place), oil-water separators, storm drains, fiber-optic cables, and other utilities are in the area of soil impacts. Although this alternative would be effective and could complete remediation within a short timeframe, excavation is considered costly, impracticable, and is not recommended.

Soil Vapor Extraction/Air Sparging: Soil vapor extraction (SVE) is an alternative that can reduce the volume of petroleum hydrocarbons in the soil, and to a lesser degree, in groundwater. Vent wells would be installed in the area of impacted soil and connected to a vacuum blower that would discharge through activated carbon, a catalytic oxidizer, or other vapor treatment apparatus, before venting to the atmosphere under the provisions of an air quality permit. Separate vapor treatment systems would be required at the North UST area and the SE UST areas. The vapor collection system would require a vast network of underground piping, buildings, electrical power, and would need to be monitored and maintained on a very frequent basis.

SVE is best implemented in conjunction with air sparging or ozone sparging, where air or ozone is forced under pressure into the saturated soils. The micro-bubbles strip hydrocarbons from the saturated soils and groundwater and ideally carry the contaminant in vapor phase to the unsaturated zone where it is collected by the SVE system.

The Soil Vapor Extraction/air sparging alternative is not viable for several reasons: depth to water in the shallow fill materials is insufficient to allow high volumes of vapor from the unsaturated zone. Significant water would be pulled into the system resulting in high maintenance effort and inefficient operation. The impermeable nature of the native clays underlying shallow fill will not support air sparging, which requires a reasonable soil permeability to be effective. Therefore, this alternative is not recommended.

5.2.2 Groundwater and LNAPL Corrective Action Alternatives

Monitored Natural Attenuation: The extent of contaminated groundwater has not increased between the last sampling events in 2002-2003 and the most recent sampling events in 2012. Groundwater occurs only in the shallow fill materials to a depth of 4-6 feet and may not have a migration pathway away from the release areas. With the extent of groundwater contamination remaining stable, it is likely that natural attenuation is taking place.

However, the groundwater concentrations of hydrocarbons, even the more soluble and volatile components like benzene, have not decreased over this same time period. The consistent concentrations of dissolved phased compounds over time suggests that LNAPL is trapped in soil pore spaces near the former release locations and acting as a continuing source of dissolved phase contaminants. Groundwater contamination is prevented from spreading vertically by extensive impermeable clays and is stable horizontally due to natural attenuation and possibly geological physical constraints. Risks associated with groundwater contamination at this site are minimal, with the possible exception of the GSI pathway via storm sewers. Natural attenuation of groundwater and LNAPL is a viable alternative for this site, so long as monitoring and suitable due-care provisions are employed to detect changes in groundwater conditions and steps are taken to mitigate migration through preferential pathways. This option assumes no changes in current land use.

In-Situ Chemical Oxidation and Bioremediation: Petroleum hydrocarbons can be destroyed in place through in-situ chemical oxidation (ISCO) or by in-situ bioremediation. Both processes involve injecting mixtures of chemicals and/or nutrients into the impacted subsurface soils.

In the case of ISCO, an oxidizing compound is injected into the impacted zone to cause a Fenton's reaction to chemically oxidize and destroy hydrocarbons, reducing them to carbon dioxide, water, and other benign oxidation by-products. The concentrations of contaminants and the presence of LNAPL do not affect the effectiveness of ISCO, except in the quantity of ISCO product that would be required to oxidize higher concentrations of contaminants. Natural oxygen demand (COD, BOD, etc.) would need to be considered in planning any ISCO implementation. ISCO is toxic to organisms, and could temporarily deplete the population of soil microbes that may currently be degrading hydrocarbons. Initial applications of ISCO often cause an initial release of contaminants from an immobile state to a dissolved mobile state, and concentration rebounds are not uncommon, requiring multiple rounds of application. Because ISCO is an oxidation process, significant heat can be generated and corrosion to underground utilities can occur, depending on the strength of oxidant used.

In the case of in-situ bioremediation, nutrients and electron acceptors are injected into the subsurface, modifying the environment to stimulate growth of naturally occurring pre-existing aerobic or anaerobic bacteria capable of breaking down hydrocarbons through metabolic or co-metabolic processes. It is important to understand the current micro-environment to properly implement bioremediation and additional studies would be necessary to determine the amendments that would achieve the desired results. Areas where contaminant concentrations are high may be more anaerobic, while other areas may be in an aerobic environment. LNAPL is often toxic to some bacteria and bioremediation may be less effective where LNAPL or very high dissolved concentrations exist. Multiple applications of bio-stimulants are often necessary for best results.

Both technologies can be implemented without the installation of an extensive subsurface infrastructure. Repeat applications are possible, and usually necessary. Of the two methods, ISCO may be more practical at this site in that only the oxygen demand is a requisite factor for planning ISCO, and ISCO can be effective in both soil and groundwater. However, many of the same site conditions that limit the effective use of soil vapor extraction hinder the effective use of both ISCO and in-situ bioremediation. The widespread nature of the contaminant in isolated pockets across

the site, unknown bio-geochemical conditions at the site, and the impermeability of the native clays would make this option difficult to implement. Therefore, these alternatives are not recommended.

Groundwater / LNAPL Pump and Treat: A groundwater / LNAPL collection system could collect LNAPL and contaminated water, separate the water from LNAPL, and treat impacted groundwater by using activated carbon or other treatment alternative to remove petroleum hydrocarbons. The shallow thickness of the permeable fill would result in very limited radius of influence for any pumping system, and would necessarily have to operate at very low recovery rates. Any groundwater / LNAPL pump & treat system will be expensive to install and operate, and would require a permitted discharge to sanitary or storm water sewers. LNAPL would need to be collected as disposed by a licensed waste disposal contractor. The groundwater pump and treat alternative is not viable due to the limited thickness of the water bearing fill materials and the low hydraulic conductivity of the underlying native clays. Therefore, this alternative is not recommended for corrective action at the site.

Air/Ozone Sparging: An air or ozone sparging system for groundwater remediation strips volatile organic hydrocarbons from soil and groundwater in the saturated zone and transports the contaminants to the vadose zone where vapors are collected by an SVE system. Ozone is a strong oxidizing agent and ozone sparging has the added benefit of adding a limited ISCO process to the remediation efforts. Air/Ozone sparging is not viable due to the limited thickness of the water bearing fill materials and the low hydraulic conductivity of the underlying native clays. Therefore, this alternative is not recommended for corrective action at the site.

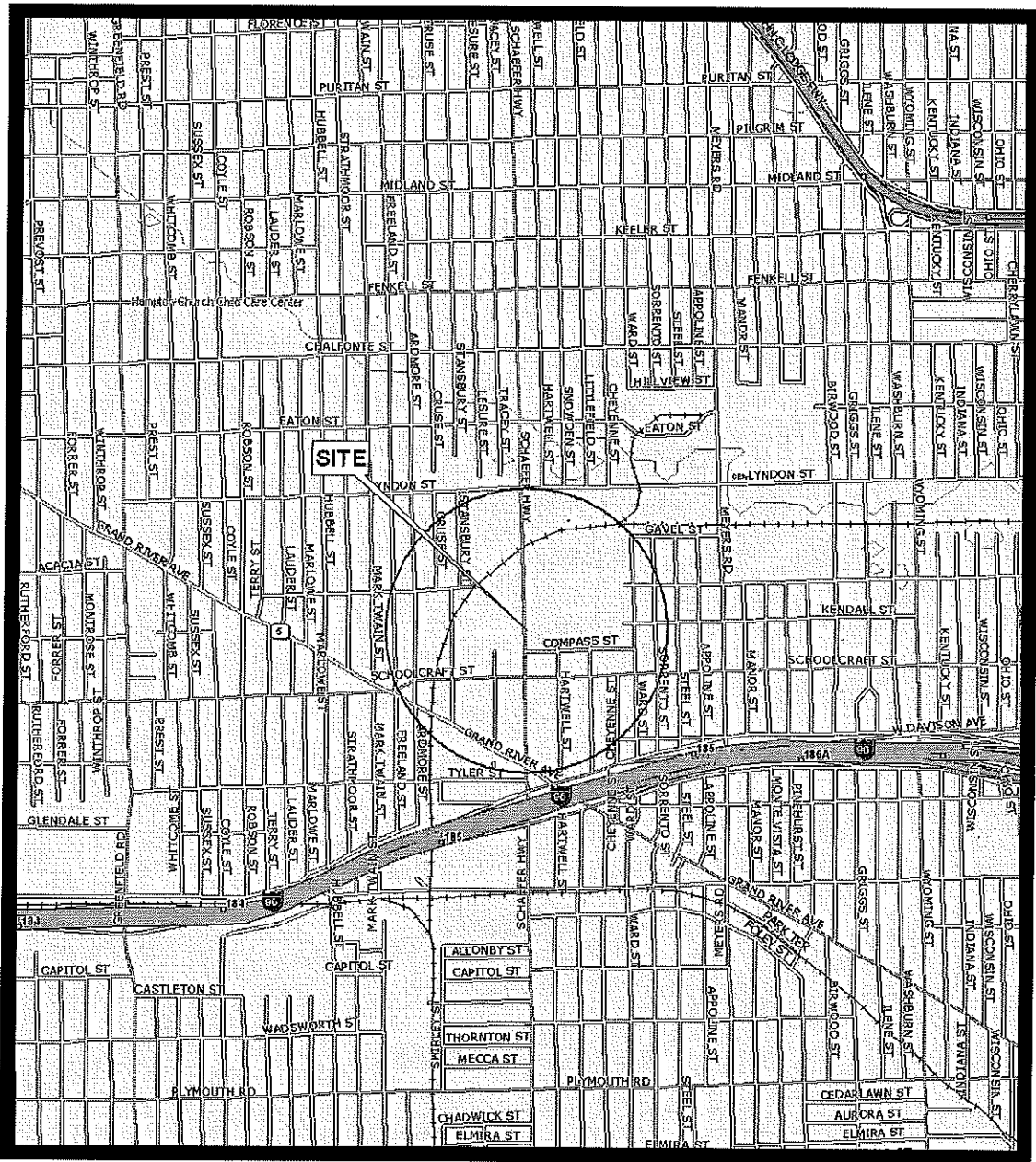
5.3 Feasibility Analysis Comparison Table

Corrective Action Alternative	Cost	Effectiveness	Duration
Soil Excavation	High	Good	Immediate
SVE - Air/Ozone Sparging	High	Poor	Moderate
Monitored Natural Attenuation	Low	Fair	Long-Term
GW/LNAPL Pump & Treat	High	Poor	Long-Term
ISCO / Bioremediation	Moderate	Poor	Short-Term

The selected corrective action alternative is Monitored Natural Attenuation with appropriate due care provisions. Given the current land use and the land use in the foreseeable future, and the stable and immobile nature of the soil and groundwater contaminants, this alternative is the most appropriate choice. Monitored natural attenuation is cost effective and can be implemented without immediate concerns of unacceptable risks to human health and the environment. Due-care requirements must be emplaced for this alternative to be protective. These may involve some additional investigation to determine whether storm water sewers in contact with contaminants pose a GSI risk, and to evaluate indoor air inhalation risks associated with residual soils. Because the garage already uses an indoor ventilation system in compliance with OSHA and MIOSHA worker safety regulations, there may be no risks to site workers from volatilization of contaminants from the subsurface. If monitoring shows that site conditions change or if exposure risks are shown to be higher than anticipated, excavation would be the best fallback alternative.

TABLES

FIGURES



SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN



SITE LOCATION MAP

MDEQ-RD
CITY OF DETROIT - 14044 SCHAEFER
DETROIT, MICHIGAN

**INTERIM RESPONSE ACTIVITIES OF
UNDERGROUND STORAGE TANK HAZARD
(An RPF PROJECT)**

**SCOPE OF WORK
FOR**

SITE INFORMATION:	City of Detroit – DDOT 14044 Schaefer HWY Detroit, MI 48227	Wayne County Facility ID #:13464 Southeast Michigan (SEMI) District
-------------------	---	---

Site Location & Background:

The property is located at the northeast corner of Schaefer Hwy and Schoolcraft, in northwest Detroit. The surrounding is mostly small commercial business and an auto salvage yard west of Schaefer.

There were a total of 24 USTs installed at the site previously. Eighteen USTs were either removed or closed-in-place from December 1999 to January 2000. Contents of the removed USTs included dextron, converter/oil, engine oil, used oil, gasoline, diesel, and water. The remaining six USTs are used to store diesel, gasoline, and used oil. The capacities of the 24 USTs ranged from 500 gallons to 50,000 gallons. There are 4 opened confirmed releases associated with the removed USTs. Free product was also discovered at the site.

Interim response activities at the site consisted of the removal and disposal of 272 gallons of free product, 2,800 gallons of contaminated groundwater, and 2,540 cubic yards of impacted soil. The limited investigation conducted at the site indicates that soil borings installed at the site were converted to 24 temporary wells and nine permanent monitor wells.

The limited investigation conducted thus far is inadequate to determine the extent of free product, soil, and/or groundwater contamination.

Scope of Work

The Scope of work of this project is to conduct a remedial investigation (RI), including source areas of contamination at the. Subsequent to completion of the RI, a Feasibility Study (FS) shall be conducted to identify appropriate remediation alternatives for mitigation of free product, as well as contamination in soil and ground at the site. The RI shall include delineation of the soil and groundwater contamination plumes on, and off-site.

Please note that the project deliverable shall consists of a Project Completion Report that details, among others, the post RI status of the site and an FS which recommends cleanup alternatives, in conformance with Risk-Based Corrective Actions. Also, the DEQ Project Manager shall be provided with a copy of the Project Completion Report on a digital medium; i.e. compact disk/flash drives.

Please note that the **Bid Specifications** for this project shall be selected by Level of Effort firm.

Budget and Time Constraints

It is expected that the project completion timeline may extend to November 2012. Submittal of all project close-out documents should be completed by May 2013.

DEQ Project Team

Paul Owens, District Supervisor

Michelle Bakun, District Enforcement Coordinator

Pewu Bah-deh, Project Manager

Special Considerations/Unique Conditions

The site is an active City of Detroit Bus Depot; therefore, City employees and contractual workers may be present at any time. Federal, State, and local health and safety regulations shall be complied with, and, special care must be exercised to preserve the health, safety, and welfare of everyone at the site.



Gannett Fleming

GANNETT FLEMING OF MICHIGAN, INC.
44099 Plymouth Oaks Blvd., Suite 102
Plymouth, Michigan 48170-6527

Office: (734) 459-6955
Fax: (734) 459-6720
www.gannettfleming.com

September 30, 2011

Mr. Gary Simons
Contract Administrator
Michigan Department of Environmental Quality
Constitution Hall, South Tower - 4th Floor,
525 West Allegan Street
Lansing, Michigan 48933

RECEIVED
OCT 17 2011
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
BUSINESS OPERATIONS DIVISION

RE: Contract RD #8010, Requested OF-60
City of Detroit-DOT (Bus Depot), 14044 Schaefer Hwy., Detroit, Michigan
Site ID # 82002470

Dear Mr. Simons:

At the request of the State Project Manager, Mr. Pewu Bah-Deh, Gannett Fleming of Michigan, Inc. has prepared four original copies of the attached Work Plan, OF-60 and modification form (DMB 410 pg. 1) for your review and approval. The scope and associated costs have been reviewed and approved by Mr. Bah-Deh.

Please contact me with any questions.

Sincerely,

GANNETT FLEMING OF MICHIGAN, INC.

Craig A. Savage
Vice President

Attachments

C: P. Bah-Deh, MDEQ-RD



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION

PROFESSIONAL SERVICES CONTRACT
ASSIGNMENT MODIFICATION

This form is required to execute a modification to a professional services contract. (Authority: 1984 PA 431)

(15.0) ASSIGNMENT / MODIFICATION
OF
CONTRACT DATED AUGUST 5, 2008 FOR PROFESSIONAL SERVICES

Discretionary Contract Number: 00281

File Number:

Contract Number: Y

Index Number(s):

Project Name: City of Detroit-DOT (Bus Depot), 1404 Schaefer Hwy., Detroit, MI - Site ID# 82002470

THIS AGREEMENT, authorized this ___ day of _____ in the year two-thousand and ___ by the Director, Department of Technology, Management and Budget, is hereby made by and BETWEEN the STATE OF MICHIGAN acting through the FACILITIES AND BUSINESS SERVICES ADMINISTRATION of the DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET, First Floor, Stevens T. Mason Building, Lansing, Michigan 48909, hereinafter called the "State," and

Gannett Fleming of Michigan, Inc.

the prime Professional Service Contractor, hereinafter called the "Professional," that the scope and terms of the contract be modified as provided by Article 14 of the contract to:

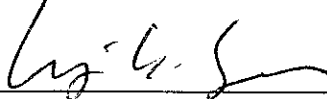
- Add the City of Detroit-DOT-14044 Schaefer Hwy. project to this contract for purpose of site characterization and remedial action feasibility studies.

Attached Appendices are part of this modification.

The above shall be totally effective as of the date above. All other terms and provisions of the contract remain fully effective.

FOR THE PROFESSIONAL:

FOR THE STATE:



Signature

Director, Department of Technology, Management and Budget

Vice President
Title



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDATION DIVISION
SOUTHEAST MICHIGAN DISTRICT OFFICE
27700 DONALD COURT
WARREN, MICHIGAN 48092**

**WORK PLAN
SITE CHARACTERIZATION AND FEASIBILITY STUDY
CITY OF DETROIT - DOT
14044 SCHAEFER HIGHWAY
DETROIT, WAYNE COUNTY,
MICHIGAN**

PROJECT #54910

SEPTEMBER 2011

Office Location:
Gannett Fleming of Michigan, Inc.
44099 Plymouth Oaks Boulevard, Suite 102
Plymouth, MI 48170

Office Contacts:
Craig Savage, C.P.
Martha Hannah, P.E.
Phone 734-459-6955

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TABLE

TABLE 1 Proposed Project Budget

FIGURE

FIGURE 1 Location Map

FIGURE 2 Proposed Project Timeline

1.0 INTRODUCTION

The Michigan Department of Environmental Quality–Remediation Division (MDEQ-RD) has directed Gannett Fleming of Michigan, Inc. (Gannett Fleming) to implement the scope of work (SOW) described in this Work Plan for the following Site:

City of Detroit – DOT
14044 Schaefer Highway
Detroit, Wayne County, Michigan

The City of Detroit – DOT site location is provided on Figure 1. The MDEQ-RD Project Manager and key technical contact for the Site is Mr. Pewu Bah-Deh.

1.1 Site Background and Description

The City of Detroit – DOT property (Site) is located at 14044 Schaefer Highway in Detroit, Wayne County, Michigan. The Site is currently a bus depot operated by the Detroit Department of Transportation (DDOT) and has historically been used by the DDOT for an unknown number of years. Improvements on the Site include a garage building, several smaller buildings used currently or historically for DDOT operations, and areas of pavement covering most of the remaining property. The Site is zoned for commercial use and is bounded a salvage yard to the west (across Schaefer), a shipping facility to the north, and mostly small commercial properties elsewhere.

According to information reviewed by Gannett Fleming, 17 underground storage tanks (USTs) were installed at the Site in 1946 and two more were installed in 1979-80. These USTs contained various materials, including diesel fuel, gasoline, engine oil, convertor oil, Dexron (transmission fluid), used oil, and water, and were of sizes ranging from 500 to 50,000 gallons. All of these tanks were removed or closed-in-place in 2000. During the tank removal, 2,540 cubic yards of impacted soil, 2,800 gallons of impacted



groundwater and 272 gallons of free product were excavated and disposed off site. Four confirmed releases were reported for the Site in 1999 and 2000. The products released were diesel fuel, gasoline and engine oil. A diesel transfer pipe failed near the garage building in 2000, causing the evacuation of the building.

Limited site investigations were conducted at the site between 1999 and 2001. As part of these assessments, 24 soil borings were performed and 24 temporary wells and nine permanent monitoring wells were installed. Data from these sampling location indicated that contamination had moved off-site and a Notice of Off-Site Migration was filed with the MDEQ. These investigations were summarized in an Initial Assessment Report and a Final Assessment Report.

Six USTs, currently in use, were installed at the Site in 2001. These include four 25,000-gallon diesel tanks, one 10,000-gallon gasoline tank and one 1,000 gallon used oil tank. Subsequently, free product has been observed in monitoring well MW-15 (April 2003). In 2006 a fifth confirmed release was reported. A leaking diesel fuel clamp was found to be the source of this leak and no response activities were performed by the DDOT concerning this leak.

The Site is considered to be out of compliance with Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environment Response Act, Act 451 of 1994, as amended. The City of Detroit has not conducted any response activities since 2003 and due to financial hardship is considered a non-viable liable party.

1.2 Project Objectives

The project objectives are summarized below:

- Determine the present level and location of soil and groundwater contamination at the Site.



- Determine the present location of free product at the Site.
- Assess the potential for and risk due to vapor intrusion into the on-site garage building.
- Identify alternatives for remediating the free product source area and the soil and groundwater contamination at the Site.

The areas to be investigated include the northern USTs and pump areas and the former eastern USTs and pump areas. The scope of work was developed based on existing data, currently known site conditions communicated by the MDEQ and the City of Detroit, and observation during a recent site visit.

2.0 SCOPE OF WORK

Gannett Fleming has prepared this Work Plan for the MDEQ-RD review and approval prior to initiation of the site activities. The Work Plan identifies actions necessary to achieve the objectives stated in Section 1.2. Tasks to be completed include:

- Kick-off Meeting
- File Review
- Site Reconnaissance
- Access Agreement
- Pre-Work Notification
- Site-specific Health and Safety Plan (HASP)
- Geophysical Survey Utility Clearance
- Soil and Groundwater Sampling and Free Product Assessment
- Soil Gas Sampling
- Disposal of Investigation Derived Wastes
- Feasibility Study
- Project Completion Report

These tasks are described in detail in the following sections.

2.1 Kick-Off Meeting

Prior to the preparation of this Work Plan, a project kick-off meeting was held at the MDEQ Southeast District office on September 21, 2010, with the MDEQ-RD Project Manager and Southeast Michigan District Supervisor to review the project objectives and scope of work. An on-site meeting was also conducted on September 27, 2010, with personnel from Gannett Fleming, MDEQ, and DDOT.

2.2 File Review

Available files pertaining to the Site have been/will be provided to Gannett Fleming for review of historical information. Documents to be reviewed include, but may not be limited to the Final Assessment Report (December 31, 2001) prepared by The Traverse Group, facility drawings/plans from the DDOT, and other release information in MDEQ files.

2.3 Site Reconnaissance

Gannett Fleming assessed the current conditions at the Site and made contact with Site management through the performance of a site walk through on September 27, 2011. Additional reconnaissance work will be conducted prior to invasive activities to identify underground utilities and other subsurface features (see Section 2.7), and establish traffic flow patterns and work areas.

2.4 Access Agreements

The MDEQ has requested that Gannett Fleming work directly with DDOT for site access and scheduling. Therefore, Gannett Fleming will complete an access agreement with DDOT as an agent of the MDEQ. If off-site construction and/or investigation activities are necessary on any roadway or right of way, Gannett Fleming will obtain the access agreement for the right-of-way, City, County, and the Michigan Department of Transportation (MDOT) properties, and any other adjacent properties as needed, prior to initiating any activities. Access agreements will cover any activities to be performed by both Gannett Fleming and any subcontractors.



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2.5 Pre-Work Notifications

The MDEQ-RD Project Manager and assigned DDOT contact person will be notified of any on-site activities at least 48 hours in advance of the scheduled work.

2.6 Site-Specific Health and Safety Plan

Gannett Fleming will prepare a site-specific HASP to provide specific guidelines and establish procedures for the protection of personnel during the activities conducted at the Site. The HASP procedures will be amended if additional information is discovered that requires alteration of the HASP.

Personnel conducting activities on-site where a potential exposure exists must have current training in hazardous waste operations and emergency response (HAZWOPER). Personnel conducting and overseeing site activities must also be familiar with the procedures and provisions of the HASP. In the event of conflicting plans/requirements, personnel will implement those safety practices that afford the highest level of protection. The HASP will be based upon currently available information and developed in accordance with the requirements set forth in 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response; Final Rule.

The Project Manager will be directly responsible for all aspects of the project, both technical and administrative. The Site Safety Officer is responsible for all aspects of health and safety during site activities. The Site Safety Officer will be responsible for ensuring that the HASP is implemented properly at all times during site operations. If the Site Safety Officer is not on-site during site operations, the senior Gannett Fleming personnel present will assume the duties of the Site Safety Officer.

2.7 Geophysical Survey Utility Clearance

Prior to initiating any subsurface work activities, Gannett Fleming staff will contact the MISS DIG one-call utility locating service to mark public utilities on and near the work areas. Some underground utilities and the UST system piping and components will not be marked by the utility companies. To avoid hitting underground structures, Gannett Fleming staff will mark proposed locations of all soil borings and arrange for a subcontractor, experienced in subsurface geophysical techniques, to conduct a subsurface geophysical survey to clear proposed boring locations. Electromagnetic conductivity (EM), ground penetrating radar (GPR) and other geophysical survey tools may be used to identify subsurface features and eliminate risks of hitting utilities or underground UST components during drilling.

2.8 Soil and Ground Water Sampling and Free Product Assessment

An investigation will be conducted at the Site, specifically around the locations of the current tanks north of the garage building and around the former location of removed tanks 9, 10 and 19, near the southeast corner of the garage building. Geoprobe® sampling technology will be used to collect the subsurface samples for on-site screening and off-site laboratory analysis. The lithologic conditions will be recorded at each boring by the on-site geologist. Temporary wells will be installed at select boring locations to facilitate the collection of groundwater samples for analysis.

Up to twenty soil borings will be installed to in the area of the current tanks and up to twelve more will be installed near the southeast corner of the garage building. The borings will be advanced to an approximate depth of 20 feet below ground surface (bgs) to characterize soils down to and including the capillary fringe. Two soil samples will be collected from each of the boring locations: one at the vadose zone interval that



exhibits the highest photo-ionization detector (PID) reading, and another at the capillary fringe.

Temporary wells will be installed at up to eight soil boring locations and groundwater samples will be collected from these locations using a peristaltic pump and disposable tubing in general accordance with minimal drawdown/low-flow groundwater sampling techniques.

In addition, groundwater level measurements and groundwater samples will be obtained at each of the nine existing monitoring wells on the Site, if found and accessible. The water levels will be used to determine groundwater elevations and estimate groundwater flow direction. Sampling from these wells will be by the same method described above. All wells will be checked for free product using an interface probe in order to locate the extent of the free product plume.

The former USTs at the Site were used to store gasoline, diesel fuel, waste oil, transmission oils, and other petroleum mixtures and distillates. Consequently, the soil and groundwater samples will be analyzed for the following:

- Petroleum related volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, xylenes (BTEX); tri-methylbenzenes (TMBs); and methyl tert-butyl ether (MTBE) by USEPA SW846 Method 8260.
- Polynuclear aromatic hydrocarbons (PNA) compounds by USEPA SW846 Method 8270.
- Lead by USEPA SW-846 6020.
- Select samples with high suspected concentrations of organic contaminants will be analyzed for gasoline range organics (GRO) and diesel range organics (DRO) to help evaluate whether free-phase product is present where the soil saturation concentrations (CSAT) might be exceeded.
- Select samples may be analyzed using toxic characteristic and synthetic precipitation leaching procedures (TCLP and SPLP) to assist with waste characterization for later waste disposal.



All soil samples collected for VOC analysis shall be preserved in accordance with SW-846 Method 5035. Soil and/or ground water samples collected during the assessment activities will be submitted to the MDEQ-RD Environmental Laboratory in Lansing, Michigan, following proper chain-of-custody protocol. Gannett Fleming will coordinate with the laboratory to acquire the necessary sampling kits and containers.

The data obtained from the sample analysis will assist in completing the site characterization and reviewing corrective action alternatives for the feasibility study evaluation.

2.9 Soil Gas Sampling

Gannett Fleming will install soil gas probes in up to four soil borings located adjacent to north wall of the DDOT garage building. The soil gas probes will be used to collect "air" samples from the soil pore spaces at depth to evaluate the concentrations of volatile organic compounds within the pores spaces. This will help evaluate the potential risks associated with indoor air inhalation in the surrounding property buildings.

The soil gas probes will consist of a machine slotted or perforated "implant" set into the boring at a depth 10-feet below the foundation of the building, connected to the surface with flexible inert tubing, and sealed from the surface using bentonite or cement. A vacuum pump will be connected to the exposed tubing at the surface used to evacuate one to three air volumes from the tube, inducing a flow of soil pore gases into the implant. A vacuum bottle or SUMA canister will then be attached via flow controlled regulator to the tubing and allowed to fill with soil pore gases. When the vacuum reaches ambient pressure, the containers will be removed and sent to the MDEQ Laboratory for VOC analysis via USEPA method TO-15.

2.10 Disposal of Investigation Derived Wastes

All investigation derived wastes (IDWs) generated as part of this site characterization will be placed in DOT approved steel drums and kept at a secure on-site location approved in advance by the DDOT. The wastes will be characterized using data obtained during the sample collection activities (Section 2.8) and disposed at a licensed off-site facility once approvals for landfill/treatment facility acceptances are received. Gannett Fleming will solicit bids from qualified subcontractors to transport and dispose of the IDWs and provide manifests and documentation for MDEQ records. Gannett Fleming can sign the waste manifests on behalf of the MDEQ or the DDOT upon receipt of authorization from the appropriate party to provide that function.

2.11 Feasibility Study

Gannett Fleming will consolidate previously available site information and incorporate new data from this site characterization to evaluate the nature and extent of soil, groundwater and free-phased product contamination in comparison to the generic Part 213 RBSLs for non-residential properties. The potential exposure pathways and risks to the environment and human health will be evaluated to determine what courses of action may be effective in eliminating exposure pathways and averting risks. These may be a combination of remedial action measures, engineering controls, and land use restrictions.

Possible options for eliminating the exposure pathways or removing free-phased product will be evaluated and compared in a decision matrix and discussed individually in a comprehensive Feasibility Study report, which will be included in the final Project Completion Report (Section 2.12). Gannett Fleming will provide recommendations for the best course of action to meet the MDEQ and DDOT objectives for closing this site, or seeking an administrative partial closure.



2.12 Project Completion Report

At the completion of all project activities, Gannett Fleming will prepare a comprehensive report summarizing all work conducted at the site, presenting all data, and discussing the findings of the investigation. The report will include a discussion of the site background, the project objectives, work completed as part of the site characterization, and findings, and include maps, tables, boring logs, analytical results, and other data pertinent to documenting the site characterization efforts. The report will also include a conclusions and recommendations section, as well as the Feasibility Study Report in its entirety.

3.0 PROJECT PERSONNEL

The project organization consists of a Program Manager, Project Manager, and other Gannett Fleming personnel needed to complete the project. The chain of command, as well as the duties of each team member, is outlined below.

The Principal in Charge (PIC) for this project is John Kovacs, Midwest Regional Manager based in the Pittsburgh office. The PIC is responsible for ensuring that the execution of the project is in accordance with Gannett Fleming standards and that the project adheres to Gannett Fleming's regional and national financial/business goals/objectives.

The Program Manager is the main contact to the client contract administrators. The main responsibilities of the Program Manager are to make sure that the objectives of the client are met on a contractual level, and to confirm that projects are moving forward at a pace acceptable to the client. The Program Manager oversees the project execution for all projects performed under this contract and assigns projects to Project Managers based on the understanding of the project needs and Gannett Fleming's resources. The Program Manager will be responsible for the quality assurance (QA) of the project. The Program Manager for this project is Craig Savage in the Michigan District Office.

The Project Manager is responsible for meeting the client project-specific objectives and executing the project within the budget and schedule. Craig Savage will serve as the Project Manager for this project. While filling both roles of Project Manager and Program Manager, Craig Savage will ensure that the client's objectives for the project are met.

Other Gannett Fleming personnel will be assigned throughout the execution of this project. For this project, personnel include: engineers Brian Kardos and Martha Hannah;



geologists Dave Straccia and Ron Friend, and billing specialist/CAD technician Shirley Garlej.

4.0 PROJECT SCHEDULE

The project duration is estimated at approximately eight to ten months, depending on weather and site availability. Included in Figure 2 is an estimated timeline, subject to change based on project needs.

Progress Reports will be submitted monthly to the MDEQ-RD Project Manager. The reports will provide information regarding the progress of the project and recent findings. The progress reports will also include planned activities and budget updates.



5.0 PROJECT BUDGET

The estimated budget to implement the SOW as outlined in this Work Plan is \$66,048.16. The estimated costs are summarized in Table 1. This budget includes Gannett Fleming's labor and other direct costs. All analytical costs will be paid directly by the MDEQ-RD.

TABLES

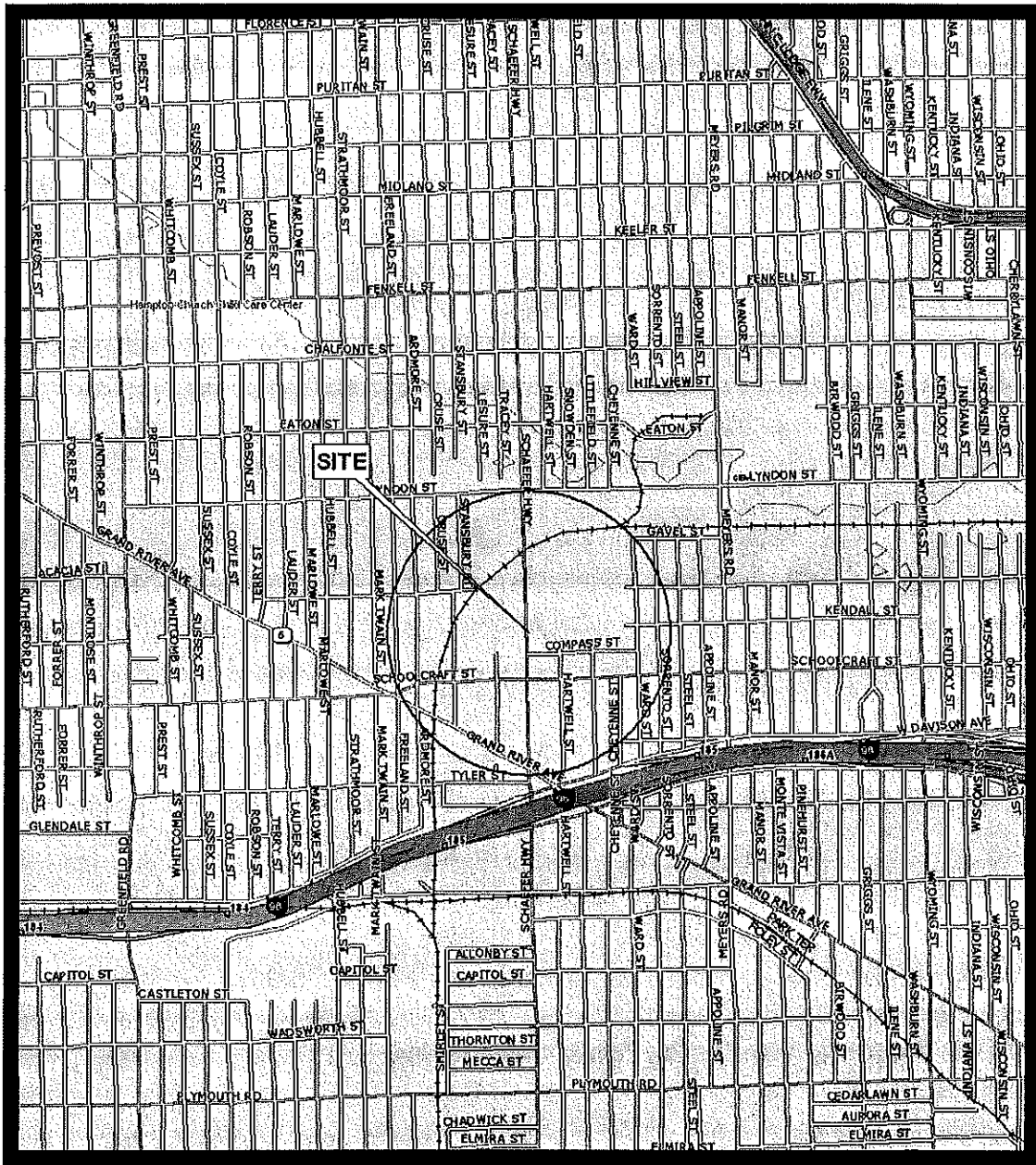
TABLE 1

Detroit Bus Depot (DOT)
14044 Schaefer Hwy., Detroit, Michigan

PROPOSED PROJECT BUDGET

	RATE	Initiation Tasks HASP /Work Plans/ current site conditions assess /kick off meeting (on-site)	Pre-Investigation Site recon, utility clearance, survey, contractor selection	Drilling and Soil Investigation Installation of 32 Geopholes and soil sampling, 8 monitoring wells, 4 soil gas points	Groundwater /Soil Gas Investigation Monitoring well sampling and soil gas sampling, survey	Feasibility Study / Analysis FSA Table/Report	PM & Communications Summary Report and project management / communications	Total Hours	Subtotal Labor	5% Profit	EXTENDED LABOR COST ESTIMATE
50814											
Labor											
P4 - Salvage	\$152.94	16	16	16	16	8	40	112	\$17,129.28	\$856.46	\$17,985.74
P3 - Kards	\$90.21					16	8	24	\$2,165.04	\$108.25	\$2,273.29
P2 - Hinnah	\$66.63	24	16	16	8	40	32	136	\$9,061.68	\$453.08	\$9,514.76
P1 - Friend/Strach	\$95.16		32	80	40	8	48	208	\$14,385.28	\$719.26	\$15,104.54
P3 - Garfig	\$69.96	8	4	4	4	8	24	52	\$3,637.92	\$181.90	\$3,819.82
Subtotal Labor Costs by Task		\$4,605.84	\$6,006.08	\$9,325.76	\$6,026.32	\$6,445.04	\$13,970.16	532	\$46,379.20	\$2,318.96	\$48,698.16
Reimbursable											
Field Equipment and Materials											
Disposable Supplies			\$100.00	\$500.00	\$500.00				\$1,100.00		\$1,100.00
Travel (Airfare, Rental car, GF truck mileage)			\$50.00	\$100.00	\$50.00				\$200.00		\$200.00
Subsistence and Lodging			\$125.00	\$250.00	\$125.00				\$500.00		\$500.00
Shipping Charges (approx \$75/cooler shipped)			\$35.00	\$100.00	\$40.00				\$175.00		\$175.00
Reproduction		\$25.00		\$150.00	\$150.00	\$25.00	\$25.00		\$300.00		\$300.00
Subtotal Reimbursable Costs by Task		\$25.00	\$310.00	\$1,100.00	\$865.00	\$25.00	\$25.00		\$2,350.00		\$2,350.00
Schedule A Totals:		\$4,630.84	\$6,316.08	\$10,425.76	\$6,891.32	\$6,470.04	\$13,995.16		\$48,729.20		\$51,048.16
Subcontractors (estimated):											
Geoprobe drilling				\$11,000.00					\$11,000.00		\$11,000.00
Geophysical Survey				\$2,500.00					\$2,500.00		\$2,500.00
Waste Disposal				\$1,500.00					\$1,500.00		\$1,500.00
Schedule B Totals:		\$0.00	\$0.00	\$15,000.00	\$0.00		\$0.00		\$0.00		\$0.00
ESTIMATED TOTAL		\$4,630.84	\$6,316.08	\$25,425.76	\$6,891.32	\$6,495.04	\$13,995.16		\$63,729.20		\$66,048.16

FIGURES



SCALE: 1" = 1,870 Feet

TOPO USA 8.0 2009
13-2 DETAIL
DETROIT, MICHIGAN



SITE LOCATION MAP
MDEQ-RD
CITY OF DETROIT – 14044 SCHAEFER
DETROIT, MICHIGAN



FIGURE 1
CITY OF DETROIT-DOT (BUS DEPOT)
PROPOSED PROJECT SCHEDULE

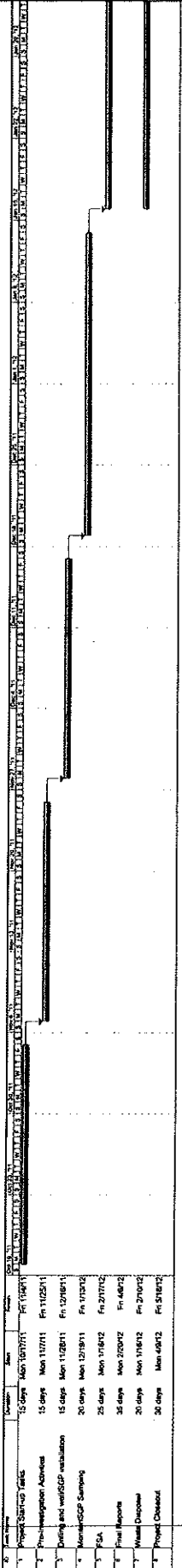
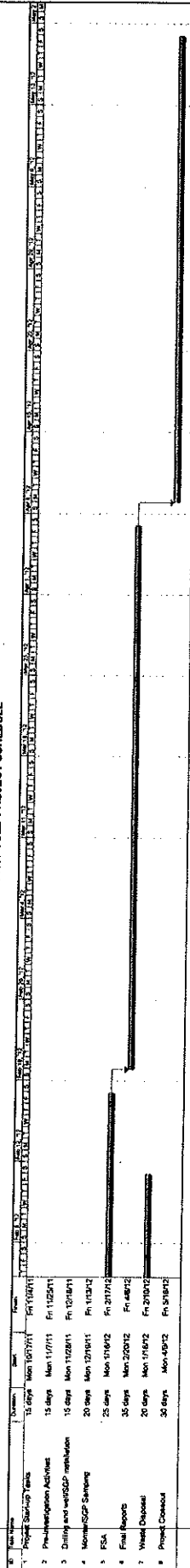


FIGURE 1

CITY OF DETROIT-DOT (BUS DEPOT)
PROPOSED PROJECT SCHEDULE



MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-1 (4-6)		SB-1 (10-12)		SB-2 (4-6)		SB-2 (14-16)		SB-3 (2-4)		SB-3 (8-10)	
					1/30/2012		1/30/2012		1/30/2012		1/31/2012		1/30/2012		1/30/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012		2/2/2012		2/2/2012		2/2/2012		2/1/2012		2/2/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,300	64	< 64	64	< 63	63	< 62	62	170	64	< 60	60
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	2,200	64	< 64	64	< 63	63	< 62	62	540	64	< 60	60
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	580	64	< 64	64	< 63	63	< 62	62	84	64	< 60	60
Benzene	4,000	8,400	4.0E+5	4.0E+5	310	64	< 64	64	< 63	63	< 62	62	77	64	< 60	60
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	470	64	< 64	64	< 63	63	< 62	62	1,000	64	< 60	60
m & p - Xylene	NPC	NPC	NPC	NPC	940	130	< 130	130	< 130	130	< 120	120	600	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 64	64	< 64	64	< 63	63	< 62	62	< 64	64	< 60	60
o - Xylene	NPC	NPC	NPC	NPC	270	64	< 64	64	< 63	63	< 62	62	170	64	< 60	60
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	230	64	< 64	64	< 63	63	< 62	62	180	64	< 60	60
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	1,210	194	< 194	194	< 193	193	< 182	182	770	194	< 180	180
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 560	560	< 570	570	< 570	570	< 2,900	2,900	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	230	< 3,300	3,300	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	< 1,200	1,200	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 220	220	< 230	230	< 230	230	5,700	1,200	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 220	220	< 230	230	< 230	230	12,000	1,200	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	11,000	2,300	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	14,000	2,300	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	460	< 460	460	6,500	2,300	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 450	460	< 460	460	4,200	2,300	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	12,000	1,200	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	< 2,300	2,300	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	190 (T)	230	< 220	220	< 230	230	< 230	230	28,000	1,200	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 220	220	< 230	230	< 230	230	4,100	1,200	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	460	< 460	460	6,400	2,300	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 420	230	< 220	220	< 230	230	< 230	230	1,400	1,200	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 220	220	< 230	230	< 230	230	19,000	1,200	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	230	230	< 220	220	< 230	230	< 230	230	24,000	1,200	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/8/2012		2/8/2012		2/8/2012		2/8/2012		Various		2/8/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		Various		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	12	1	5.9	1	6.5	1	6.2	1	50	1	6.8	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	500,000	29,000	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	3,500,000	120,000	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-4 (6-8)		SB-4 (14-16)		SB-5 (10-12)		SB-5 (16-18)		SB-6 (6-8)		SB-6 (14-16)	
					1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)					2/2/2012		2/2/2012		2/6/2012		2/2/2012		2/2/2012		2/2/2012	
Date Analyzed					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Analytical Method No.					GS		GS		GS		GS		GS		GS	
Collection Method					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
TARGET COMPOUNDS (ug/L)					< 61	61	< 65	65	1,300	66	< 61	61	< 62	62	< 62	62
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	5,200	66	< 61	61	< 62	62	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 61	61	< 65	65	550	66	< 61	61	< 62	62	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 61	61	< 65	65	230	66	< 61	61	< 62	62	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 61	61	< 65	65	1,600	66	< 61	61	< 62	62	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 61	61	< 65	65	1,400	130	< 120	120	< 120	120	< 120	120
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 130	130	< 66	66	< 61	61	< 62	62	< 62	62
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 61	61	< 65	65	580	66	< 61	61	< 62	62	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 61	61	< 65	65	< 66	66	< 61	61	< 62	62	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 181	181	< 195	195	1,980	196	< 181	181	< 182	182	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)					2/17/2012		2/17/2012		2/17/2012		2/20/2012		2/20/2012		2/20/2012	
Date Analyzed					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Analytical Method No.					GS		GS		GS		GS		GS		GS	
Collection Method					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
TARGET COMPOUNDS (ug/L)					< 570	570	< 570	570	< 1,500	1,500	< 570	570	< 570	570	< 570	570
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	< 590	590	< 230	230	< 230	230	< 230	230
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 1,200	1,200	< 460	460	< 460	460	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	1,700	590	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 590	590	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS					2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012		2/8/2012	
Date Analyzed					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Analytical Method No.					GS		GS		GS		GS		GS		GS	
Collection Method					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
TARGET COMPOUNDS (ug/L)					5.8	1	6.1	1	12	1	5.6	1	5.5	1	5.6	1
Lead - Total	(G,X)	NLV	9.0E+5	NA	5.8	1	6.1	1	12	1	5.6	1	5.5	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 5 = Result and RL are estimated due to low continuing calibration standard criteria failure.
 D = Analyte value quantified from a dilution(s); RL raised.
 J = Analyte was positively identified. Value is an estimate.
 P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
 T = Reported value is less than the reporting limit (RL). Result is estimated.
 X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.
Bolded indicates concentration exceeds laboratory method detection limit.
Shaded indicates concentration exceeds one or more applicable RBSL.
 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-7 (4-6)		SB-7 (12-14)		SB-8 (6-8)		SB-8 (12-14)		SB-9 (2-4)		SB-9 (12-14)	
					1/30/2012		1/30/2012		1/31/2012		1/31/2012		1/31/2012		1/31/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012		2/2/2012		2/4/2012		2/6/2012		2/9/2012		2/6/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,400	65	< 61	61	< 62	62	< 64	64	8,900	490	< 65	65
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	1,100	65	< 61	61	< 62	62	< 64	64	18,000	490	< 65	65
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	810	65	< 61	61	< 62	62	< 64	64	7,300	490	< 65	65
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	1,200	65	< 61	61	< 62	62	< 64	64	4,400	490	< 65	65
m & p - Xylene	NPC	NPC	NPC	NPC	350	130	< 120	120	< 120	120	< 130	130	5,200	980	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
o - Xylene	NPC	NPC	NPC	NPC	< 65	65	< 61	61	< 62	62	< 64	64	2,500	490	< 65	65
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65	< 61	61	< 62	62	< 64	64	< 490	490	< 65	65
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 415	195	< 181	181	< 182	182	< 194	194	7,700	1,470	< 195	195
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/20/2012		2/20/2012		2/16/2012		2/16/2012		2/16/2012		2/16/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8270		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	< 570	570	< 570	570	3,200	2,900	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 1,100	1,100	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 1,100	1,100	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	910 (T)	1,100	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 230	230	1,600	1,100	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 2,300	2,300	< 450	450
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,200	1,100	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	930 (T)	1,100	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 450	450	< 450	450	< 450	450	< 460	460	< 2,300	2,300	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 430	230	< 230	230	< 230	230	< 230	230	4,100	1,100	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,400	1,100	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	4,300	1,100	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/8/2012		2/2/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.0	1	6.3	1	6.6	1	7.9	1	28	1	6.8	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s), RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-10 (6-8)	SB-10 (12-14)	SB-11 (4-6)	SB-11 (12-14)	SB-12 (4-6)	SB-12 (12-14)						
					1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/6/2012	2/6/2012	2/6/2012	2/6/2012	2/8/2012	2/8/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL		
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
m & p - Xylene	NPC	NPC	NPC	NPC	< 140	140	< 130	130	< 130	130	< 120	120	< 120	120	< 140	140
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
o - Xylene	NPC	NPC	NPC	NPC	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 70	70	< 66	66	< 64	64	< 62	62	< 61	61	< 69	69
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 210	210	< 196	196	< 194	194	< 182	182	< 181	181	< 209	209
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/16/2012	2/16/2012	2/16/2012	2/23/2012	2/23/2012	2/23/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8270	EPA Method 8270	EPA Method 8260	EPA Method 8270	EPA Method 8270						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 590	590	< 570	570	< 570	570	< 570	570	< 570	570	< 560	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 460	460	< 460	460	< 450	450	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 240	240	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/13/2012	2/13/2012	2/13/2012	2/8/2012	2/8/2012	2/8/2012						
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	8.1	1	8.6	1	7.6	1	6.6	1	6.9	1	6.5	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

off-site

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-13 (1-4)	SB-13 (12-14)	SB-14 (0-2)	SB-14 (12-14)	SB-15 (2-4)	SB-15 (16-18)						
					1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed	2/8/2012		2/8/2012		2/9/2012		2/7/2012		2/7/2012							
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260							
Collection Method	GS		GS		GS		GS		GS							
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL						
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	29,000	2,600	65	65	3,500	470	< 62	62	< 61	61		
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	130,000	2,600	280	65	7,500	470	< 62	62	< 61	61		
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	41,000	2,600	95	65	2,700	470	< 62	62	< 61	61		
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 2,600	2,600	< 65	65	< 470	470	< 62	62	< 61	61		
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	18,000	2,600	< 65	65	< 470	470	< 62	62	< 61	61		
m & p - Xylene	NPC	NPC	NPC	NPC	78,000	5,200	140	130	2,000	950	< 120	120	< 120	120		
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 2,600	2,600	< 65	65	< 470	470	< 62	62	< 61	61		
o - Xylene	NPC	NPC	NPC	NPC	32,000	2,600	< 65	65	890	470	< 62	62	< 61	61		
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	44,000	2,600	90	65	< 470	470	< 62	62	< 61	61		
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	110,000	7,800	< 205	195	2,890	1,420	< 182	182	< 181	181		
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed	2/23/2012		2/23/2012		2/24/2012		2/24/2012		2/24/2012							
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270							
Collection Method	GS		GS		GS		GS		GS							
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL						
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	13,000	2,800	< 570	570	5,700	280	< 570	570	< 290	290	< 570	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	110	110	< 230	230	330	110	< 230	230	< 110	110	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 110	110	< 230	230	< 110	110	< 230	230	< 110	110	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 110	110	< 230	230	230	110	< 230	230	< 110	110	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 110	110	< 230	230	420	110	< 230	230	< 110	110	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 230	230	< 460	460	370	220	< 460	460	< 230	230	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 230	230	< 460	460	480	220	< 460	460	< 230	230	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 230	230	< 460	460	240	220	< 460	460	< 230	230	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 230	230	< 460	460	< 230	220	< 460	460	< 230	230	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 110	110	< 230	230	430	110	< 230	230	< 110	110	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 230	230	< 460	460	< 220	220	< 460	460	< 230	230	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	170	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	150	110	< 230	230	460	110	< 230	230	< 110	110	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 230	230	< 460	460	280	220	< 460	460	< 230	230	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	7,500	110	< 230	230	1,300	110	< 230	230	< 110	110	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	220	110	< 230	230	1,100	110	< 230	230	< 110	110	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	150	110	< 230	230	1,000	110	< 230	230	< 110	110	< 230	230
INORGANICS AND METALS																
Date Analyzed	2/13/2012		2/13/2012		2/13/2012		2/13/2012		2/13/2012							
Analytical Method No.	EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020							
Collection Method	GS		GS		GS		GS		GS							
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL						
Lead - Total	(G,X)	NLV	9.0E+5	NA	2.3	1	6.7	1	12	1	6.6	1	1.8	1	6.4	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-16 (4-6)	SB-16 (17-19)	SB-17 (4-6)	SB-17 (12-14)	SB-18 (4-6)	SB-18 (13-15)						
					2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012	2/1/2012						
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/9/2012	2/7/2012	2/7/2012	2/7/2012	2/7/2012	2/7/2012						
Analytical Method No.					EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	1,900	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 2,200	2,200	< 140	140	< 130	130	< 130	130	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 1,100	1,100	< 72	72	< 65	65	< 64	64	< 62	62	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 3,300	3,300	< 212	212	< 195	195	< 194	194	< 182	182	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/24/2012	2/24/2012	2/24/2012	2/24/2012	2/24/2012	2/24/2012						
Analytical Method No.					EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	51,000	15,000	< 3,000	3,000	< 290	290	< 570	570	< 290	290	< 560	560
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 610	610	3,900	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 1,200	1,200	3,700	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 1,200	1,200	5,000	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 1,200	1,200	2,200	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 1,200	1,200	< 2,400	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 610	610	3,500	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 1,200	1,200	< 2,400	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	870	610	7,400	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	1,200	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 1,200	1,200	2,800	2,400	< 230	230	< 460	460	< 230	230	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 610	610	< 1,200	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	670	610	2,800	1,200	< 120	120	< 230	230	< 110	110	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	870	610	6,800	1,200	< 120	120	< 230	230	< 110	110	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/9/2012	2/7/2012	2/7/2012	2/7/2012	2/14/2012	2/14/2012						
Analytical Method No.					EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020						
Collection Method					GS	GS	GS	GS	GS	GS						
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	35	1	13	1	2.4	1	6.3	1	2	1	5.5	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-19 (3-5)		SB-19 (10-12)		SB-20 (3-5)		SB-20 (10-12)		SB-21 (4-6)		SB-21 (10-12)	
					2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/1/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/7/2012		2/7/2012		2/9/2012		2/7/2012		2/9/2012		2/9/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	1,700	500	< 60	60	< 61	61	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 67	67	< 64	64	2,900	500	< 60	60	< 61	61	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 67	67	< 64	64	1,600	500	< 60	60	< 61	61	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 67	67	< 64	64	610	500	< 60	60	< 61	61	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 67	67	< 64	64	1,800	500	< 60	60	< 61	61	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	< 1,000	1,000	< 120	120	< 120	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 64	64	< 500	500	< 60	60	< 61	61	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 197	197	< 194	194	< 1,500	1,500	< 180	180	< 181	181	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/24/2012		2/24/2012		2/24/2012		2/24/2012		2/16/2012		2/16/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8260		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 590	590	< 570	570	11,000	580	< 560	560	< 570	570	< 560	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	240	230	< 230	230	460	230	< 220	220	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 470	470	< 450	450	< 460	460	< 450	450	< 450	450	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	3,400	230	< 220	220	< 230	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	300	230	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					NA		NA		NA		NA		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.4	1	5.9	1	7.5	1	5.3	1	5.9	1	5.9	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-22 (4-6)		SB-22 (10-12)		SB-23 (4-6)		SB-23 (12-14)		SB-24 (4-6)		SB-24 (10-12)	
					2/1/2012		2/1/2012		2/1/2012		2/1/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/9/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)																
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	3,500	67	120	63	26,000	950	< 59	59	2,600	66	< 61	61
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	15,000	270	460	63	56,000	950	< 59	59	11,000	66	< 61	61
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	3,500	67	120	63	18,000	950	< 59	59	3,200	66	< 61	61
Benzene	4,000	8,400	4.0E+5	4.0E+5	2,400	67	< 63	63	< 950	950	< 59	59	470	66	< 61	61
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	2,500	67	81	63	6,000	950	< 59	59	1,000	66	< 61	61
m & p - Xylene	NPC	NPC	NPC	NPC	3,500	130	< 130	130	23,000	1,900	< 120	120	3,900	130	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
o - Xylene	NPC	NPC	NPC	NPC	< 67	67	< 63	63	13,000	950	< 59	59	< 66	66	< 61	61
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 67	67	< 63	63	< 950	950	< 59	59	< 66	66	< 61	61
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 3,567	197	< 193	193	36,000	1,850	< 179	179	3966	196	< 181	181
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/16/2012		2/16/2012		2/20/2012		2/16/2012		2/16/2012		2/16/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8260		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)																
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 580	580	< 570	580	13,000 (T)	14,000	< 550	550	< 570	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 460	460	< 11,000	11,000	< 440	440	< 460	460	< 450	450
Naphthalene	730	4.7E+5	5.2E+7	NA	2,800	230	< 230	230	6,400	5,600	< 220	220	1,200	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 5,600	5,600	< 220	220	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012		2/14/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)																
					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	7.2	1	6.3	1	3.1	1	4.3	1	6.2	1	5.6	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

S = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-25 (4-6)		SB-25 (10-12)		SB-26 (2-4)		SB-26 (12-14)		SB-27 (4-6)		SB-27 (14-16)	
					2/2/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)																
Date Analyzed					2/9/2012		2/9/2012		2/10/2012		2/9/2012		2/9/2012		2/10/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	340	61	< 62	62
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	< 62	62	71	61	< 60	60	< 63	63	380	61	< 62	62
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	< 62	62	< 61	61	< 60	60	< 63	63	440	61	< 62	62
Benzene	4,000	8,400	4.0E+5	4.0E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 62	62	< 61	61	61	60	< 63	63	350	61	< 62	62
m & p - Xylene	NPC	NPC	NPC	NPC	< 120	120	< 120	120	< 120	120	< 130	130	350	120	< 120	120
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
o - Xylene	NPC	NPC	NPC	NPC	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 62	62	< 61	61	< 60	60	< 63	63	< 61	61	< 62	62
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 182	182	< 181	181	< 180	180	< 193	193	580	181	< 182	182
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)																
Date Analyzed					2/16/2012		2/17/2012		2/17/2012		2/17/2012		2/17/2012		2/19/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 570	570	< 570	570	1,400	570	< 560	560	2800	570	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Indeno(1,2,3-c,d)pyrene (Q)	NLL	NLV	80,000	NA	< 460	460	< 450	450	< 450	450	< 450	450	< 450	450	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 230	230	< 230	230	410	230	< 230	230	1,100	230	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230	< 230	230
INORGANICS AND METALS																
Date Analyzed					2/14/2012		2/14/2012		2/10/2012		2/14/2012		2/9/2012		2/14/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	6.7	1	5.7	1	5.4	1	4.1	1	6.4	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 1
SOIL ANALYTICAL RESULTS

Sample ID	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels	SB-28 (6-7)		SB-29 (9-10)		SB-30 (2-4)		SB-30 (9-10)	
					2/2/2012		2/2/2012		2/2/2012		2/2/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)												
Date Analyzed					2/14/2012		2/10/2012		2/10/2012		2/10/2012	
Analytical Method No.					EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	NPC	360	65	< 65	65	98,000	5,300	< 63	63
1,2,4-Trimethylbenzene	570	1.1E+5	1.1E+5	1.1E+5	480	65	< 65	65	400,000	5,300	< 63	63
1,3,5-Trimethylbenzene	1,100	94,000	94,000	94,000	160	65	< 65	65	120,000	5,300	< 63	63
Benzene	4,000	8,400	4.0E+5	4.0E+5	65	65	< 65	65	5,500	5,300	< 63	63
Ethyl benzene	360	1.4E+5	1.4E+5	1.4E+5	< 65	65	< 65	65	86,000	5,300	< 63	63
m & p - Xylene	NPC	NPC	NPC	NPC	< 130	130	< 130	130	290,000	11,000	< 130	130
Methyl tertiary butyl ether (MTBE)	1.4E+5	5.9E+6	5.9E+6	5.9E+6	< 65	65	< 65	65	< 5,300	5,300	< 63	63
o - Xylene	NPC	NPC	NPC	NPC	< 65	65	< 65	65	32,000	5,300	< 63	63
Toluene	5,400	2.5E+5	2.5E+5	2.5E+5	< 65	65	< 65	65	< 5,300	5,300	< 63	63
Xylenes, total	820	1.5E+5	1.5E+5	1.5E+5	< 195	195	< 195	195	322,000	16,300	< 193	193
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA's)												
Date Analyzed					2/21/2012		2/19/2012		2/21/2012		2/19/2012	
Analytical Method No.					EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
2-Methylnaphthalene	4,200	4.9E+6	2.6E+7	NA	< 14,000	14,000	< 570	570	18,000	3,000	< 570	570
Acenaphthene	8,700	3.5E+8	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Acenaphthylene	ID	3.0E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Anthracene	ID	1.0E+9	7.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]anthracene (Q)	NLL	NLV	80,000	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Benzo[a]pyrene (Q)	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[b]fluoranthene (Q)	NLL	ID	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[g,h,i]perylene	NLL	NLV	7.0E+6	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Benzo[k]fluoranthene (Q)	NLL	NLV	8.0E+5	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Chrysene (Q)	NLL	ID	8.0E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Dibenzo[a,h]anthracene	NLL	NLV	8,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Fluoranthene	5,500	1.0E+9	1.3E+8	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Fluorene	5,300	1.0E+9	8.7E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Indeno[1,2,3-c,d]pyrene (Q)	NLL	NLV	80,000	NA	< 11,000	11,000	< 450	450	< 2,400	2,400	< 460	460
Naphthalene	730	4.7E+5	5.2E+7	NA	< 5,700	5,700	< 230	230	15,000	1,200	< 230	230
Phenanthrene	2,100	5.1E+6	5.2E+6	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
Pyrene	ID	1.0E+9	8.4E+7	NA	< 5,700	5,700	< 230	230	< 1,200	1,200	< 230	230
INORGANICS AND METALS												
Date Analyzed					2/14/2012		2/14/2012		2/14/2012		2/10/2012	
Analytical Method No.					EPA 6020		EPA 6020		EPA 6020		EPA 6020	
Collection Method					GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)					Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	9.0E+5	NA	15	1	5.7	1	6.2	1	5.3	1
Diesel Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	NPC	NPC	NPC	NPC	NA	NA	NA	NA	NA	NA	NA	NA

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

5 = Result and RL are estimated due to low continuing calibration standard criteria failure.

D = Analyte value quantified from a dilution(s); RL raised.

J = Analyte was positively identified. Value is an estimate.

P = Recommended sample collection/preservation technique not used; reported result(s) is an estimate.

T = Reported value is less than the reporting limit (RL). Result is estimated.

X = Analyte has boiling point above 200C and is better suited to analysis by method 8270 as semivolatile organic.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 2
SOIL BORING GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	SB-5		SB-17		SB-18	
Date Collected				1/30/2012		2/1/2012		2/1/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)									
Date Analyzed				2/2/2012		2/8/2012		2/7/2012	
Analytical Method No.				EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	8.9	1	< 1	1	< 1	1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	25	1	< 1	1	< 1	1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	3.9	1	< 1	1	< 1	1
Benzene	200	35,000	11,000	25	1	< 1	1	< 1	1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	12	1	< 1	1	< 1	1
m & p - Xylene	NPC	NPC	NPC	12	2	< 2	2	< 2	2
o - Xylene	NPC	NPC	NPC	5.4	1	< 1	1	< 1	1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	17.4	3	< 3	3	< 3	3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)									
Date Analyzed				2/8/2012		2/13/2012		2/13/2012	
Analytical Method No.				EPA Method 8270		EPA Method 8270		EPA Method 8260	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
Fluoranthene	1.6	210 (S)	210 (S)	0.9 (T)	1	< 1	1	< 1	1
Naphthalene	11	31,000 (S)	31,000 (S)	4	1	< 1	1	< 1	1
Pyrene	ID	140 (S)	140 (S)	1	1	< 1	1	< 1	1
INORGANICS AND METALS									
Date Analyzed				2/7/2012		2/8/2012			
Analytical Method No.				6020/200.8		6020/200.8		6020/200.8	
Collection Method				GS		GS		GS	
TARGET COMPOUNDS (ug/L)				Conc.	RL	Conc.	RL	Conc.	RL
Lead - Total	(G,X)	NLV	ID	86	1	1.5	1	1.5	1

ug/L = micrograms per liter

RL = Reporting Limit

GS = Grab Sample

NA = Not Applicable

T = Reported value is less than the reporting limit (RL). Result is estimated.

Bolded indicates concentration exceeds laboratory method detection limit.

Shaded indicates concentration exceeds one or more applicable RBSL.

Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 3
MONITORING WELL GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	MW-2	MW-2	MW-3	MW-3	MW-3 (DUP-1)	MW-7	MW-7		
				2/8/2012	8/17/2012	2/8/2012	8/17/2012	8/17/2012	2/8/2012	8/17/2012		
VOLATILE ORGANIC COMPOUNDS (VOCs)												
Date Analyzed	2/13/2012		8/25/2012		2/13/2012		8/25/2012		2/13/2012		8/25/2012	
Analytical Method No.	EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260		EPA Method 8260	
Collection Method	GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	1.2	1	< 1	1	< 1	1	< 1	1	< 1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	2.5	1	< 1	1	1.8	1	< 1	1	< 1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	< 1	1	< 1	1	< 1	1	< 1	1	< 1
Benzene	200	35,000	11,000	< 1	1	< 1	1	< 1	1	< 1	1	< 1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	< 1	1	< 1	1	< 1	1	< 1	1	< 1
m & p - Xylene	NPC	NPC	NPC	< 2	2	< 2	2	< 2	2	< 2	2	< 2
o - Xylene	NPC	NPC	NPC	< 1	1	< 1	1	< 1	1	< 1	1	< 1
Toluene	270	5.3E+5 (S)	5.3E+5 (S)	< 1	1	< 1	1	< 1	1	< 1	1	< 1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	< 3	3	< 3	3	< 3	3	< 3	3	< 3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)												
Date Analyzed	2/23/2012		8/27/2012		2/23/2012		8/27/2012		2/23/2012		8/27/2012	
Analytical Method No.	EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270		EPA Method 8270	
Collection Method	GS		GS		GS		GS		GS		GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Naphthalene	11	31,000 (S)	31,000 (S)	< 1	1	< 1	1	< 1	1	< 1	1	< 1
INORGANICS AND METALS												
Date Analyzed	2/21/2012		NS		2/21/2012		NS		2/21/2012		NS	
Analytical Method No.	6020/200.8		NS		6020/200.8		NS		6020/200.8		NS	
Collection Method	GS		NS		GS		NS		GS		NS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	NA	NA	Conc.	RL	NA	NA	Conc.	RL	NA	NA
Lead - Total	(G.X)	NLV	ID	16	1	NS	NS	1	1	NS	NS	1.3

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 T = Reported value is less than the reporting limit (RL). Result is estimated
Bolded indicates concentration exceeds laboratory method detection limit
 Shaded indicates concentration exceeds one or more applicable RBSL
 Analytical results are only shown for analytes that were detected.

MDEQ-RD
SCHAEFER HWY DDOT BUS DEPOT
DETROIT, MI

TABLE 3
MONITORING WELL GROUNDWATER ANALYTICAL RESULTS

Sample ID	Groundwater/Surface Water Interface Criteria & RBLS	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBLS	Groundwater Contact Criteria & RBLS	MW-10	MW-11	MW-12	MW-13	MW-14	TB-1	
				8/17/2012	8/17/2012	8/17/2012	8/17/2012	8/17/2012	8/24/2012	
VOLATILE ORGANIC COMPOUNDS (VOCs)										
Date Analyzed				8/27/2012	8/28/2012	8/25/2012	8/25/2012	8/25/2012	8/24/2012	
Analytical Method No.				EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	EPA Method 8260	
Collection Method				GS	GS	GS	GS	GS	GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
1,2,3-Trimethylbenzene	NPC	NPC	NPC	< 1	< 1	39	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	17	56,000 (S)	56,000 (S)	< 1	< 1	200	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	45	61,000 (S)	61,000 (S)	< 1	< 1	33	< 1	< 1	< 1	< 1
Benzene	200	35,000	11,000	< 1	3.5	4,500	< 1	< 1	< 1	< 1
Ethylbenzene	18	1.7E+5 (S)	1.7E+5 (S)	< 1	< 1	330	< 1	< 1	< 1	< 1
m & p - Xylene	NPC	NPC	NPC	< 2	< 2	220	< 2	< 2	< 2	< 2
o - Xylene	NPC	NPC	NPC	< 1	< 1	1.6	< 1	< 1	< 1	< 1
Toluene	270	5.3E+5 (S)	5.3E+5 (S)	< 1	< 1	11	< 1	< 1	< 1	< 1
Xylenes, total	41	1.9E+5 (S)	1.9E+5 (S)	< 3	< 3	332	< 3	< 3	< 3	< 3
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA's)										
Date Analyzed				8/27/2012	8/25/2012	8/27/2012	8/27/2012	8/27/2012	8/27/2012	
Analytical Method No.				EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	EPA Method 8270	
Collection Method				GS	GS	GS	GS	GS	GS	
TARGET COMPOUNDS (ug/L)	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
Naphthalene	11	31,000 (S)	31,000 (S)	< 1	9.9	1	30	< 1	< 1	1
INORGANICS AND METALS										
Date Analyzed				NS	NS	NS	NS	NS	NS	
Analytical Method No.				NS	NS	NS	NS	NS	NS	
Collection Method				NA	NA	NA	NA	NA	NA	
TARGET COMPOUNDS (ug/L)	(G,X)	NLV	ID	NS	NS	NS	NS	NS	NS	
Lead - Total	(G,X)	NLV	ID	NS	NS	NS	NS	NS	NS	

ug/L = micrograms per liter
 RL = Reporting Limit
 GS = Grab Sample
 NA = Not Applicable
 T = Reported value is less than the reporting limit (RL). Result is estimated
Bolded indicates concentration exceeds laboratory method detection limit
Shaded indicates concentration exceeds one or more applicable RBLS
 Analytical results are only shown for analytes that were detected.

**AMENDED FINAL ASSESSMENT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY (NO. 00013464)
14044 SCHAEFER HWY.
DETROIT, MI 48227**



Environmental Engineering & Consulting Services Since 1975



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - REMEDIATION &
 PO BOX 30426, LANSING, MI 48909-7926, Phone 517-373-9837, Fax 517-373-2637, E-

DATE ENTERED INTO DATABASE
9-17-03
 STAFF INITIALS: PB

**LEAKING UNDERGROUND STORAGE TANK
 SUPPLEMENTAL REPORT COVER SHEET**

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Amended Final Assessment Report

FACILITY NAME: Detroit Department of Transportation		FACILITY ID NUMBER: 00013464
STREET ADDRESS: 14044 Schaefer Hwy.		CITY: Detroit
STATE: MI	ZIP CODE: 48227	COUNTY: Wayne
DATE(S) RELEASE(S) DISCOVERED: 1. 12/20/99, 2. 12/20/99, 3. 12/30/99, and 4. 1/25/00		CONFIRMED RELEASE NUMBER(S): 1. C-1332-99, 2. C-1333-99, 3. C-1388-99, and 4. C-88-00
O/O NAME: City of Detroit		
O/O STREET ADDRESS: 5300 Chrysler Service Drive		STATE: MI ZIP CODE: 48211
CONTACT PERSON: Ken Ong		PHONE NUMBER: 313.833.3000

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel		
2. Free product present:		
a. Currently? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If YES, total gallons recovered since last report: 1.19	
b. Previously? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If YES, total gallons recovered to date: 1.19	
3. Have vapors been identified in any confined spaces (basement, sewers)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
4. Estimated depth to groundwater: 3 to 9 feet	Estimated groundwater flow direction: radial	
5. Estimated distance and direction from point of release to nearest:		
a. Private well: > 1/2 Mile	b. Municipal well: > 1/2 Mile	c. Surface water/wetland: Detroit River, > 1Mile South
6. Since last report: a. cubic yards of soil remediated: 1,520 b. gallons of groundwater remediated: 0		
7. Totals to date: a. cubic yards of soil remediated: 6,260 b. gallons of groundwater remediated: 2,800		
8. Michigan RBCA Site Classification (1-4): 1		
9. Has contamination migrated off-site above Tier 1 Residential RBSLs <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 <input type="checkbox"/> YES <input type="checkbox"/> NO		
10. MTBE	Has MTBE been detected in any groundwater sample? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Maximum MTBE concentration found in groundwater 39 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD)

**AMENDED FINAL ASSESSMENT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY, 14404 SCHAEFER HWY.
DETROIT, MI**

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Appendix B	Remediation System Operation and Maintenance Manual
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**AMENDED FINAL ASSESSMENT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY, 14404 SCHAEFER HWY.
DETROIT, MI**

1.0 INTRODUCTION

Since the submittal of the Final Assessment Report (FAR), dated December 31, 2001, additional investigation activities were conducted (as proposed in Section 5.0 of the FAR). The purpose of conducting the additional investigation activities was to complete delineation off-site and to determine the groundwater characteristics/conditions upon completion of the site construction/renovation activities (consisted of concrete restoration, communication line removal/installation, demolition of above ground storage tank system, and demolition of the pump house) and approval of off-site access north of the site (O.H. Frisbie Moving and Storage).

A summary of the additional investigation activities and information not provided in the FAR are presented in the following sections of this report. In addition, updated figures, tables, and appendices are attached (refer to the Table of Contents for listing).

2.0 ADDITIONAL INVESTIGATION ACTIVITIES

The following additional investigation activities were conducted since the submittal of the FAR:

- A total of twenty-six borings were advanced. These borings were advanced by hand-auger (HA-6 through HA-14 and MW-15), hollow stem auger drilling (SB-1 through SB-4, MW-2, MW-3, MW-7, and MW-10 through MW-15), and Geoprobe® drilling (GP-36 through GP-41, GP-43 through GP-45).
- A total of four temporary monitor wells (HA-8, HA-10, HA-12, and GP-39) and nine permanent monitor wells (MW-2, MW-3, MW-7, MW-10 through MW-15) were installed.

Sample locations are depicted on Figures 3 and 4. Soil boring logs and well construction diagrams generated since the submittal of the FAR are included in Appendix A. Field procedures were conducted in accordance to Traverse Group's Field Standard Operating Procedures (SOPs), refer to Appendix D.

3.0 SUMMARY OF ANALYTICAL RESULTS

Soil and groundwater samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) and trimethylbenzenes (TMBs) by U.S. EPA Method 8260, polynuclear aromatics (PNAs) by U.S. EPA Method 8270, and lead by U.S. EPA Method 6010/6020. These parameters were selected based on the known contents of the former tanks and historical analytical data from previous investigations conducted at the site. Soil analytical results are presented in Tables 1 through 4 and groundwater analytical results are presented in Tables 5 through 8.

Samples collect along the northern property boundary and off-site were compared to Tier I Residential Risk-Based Screening Levels (RBSLs). Samples collected on the site were compared to Tier I Commercial III RBSLs. The results of this comparison are summarized in Sections 3.1 (Soil Analytical Results) and 3.2 (Groundwater Analytical Results).

3.1 Soil Analytical Results

Analytical data from soil samples collected on-site were compared to the Commercial III RBSLs. The results of the comparison indicated that the following concentrations were detected above the Commercial III RBSLs (refer to Tables 1 and 3).

- 8N End (2-3' bg) - 1,2,4-trimethylbenzene (130,000 ug/kg).
- 13S Sidewall (3-4' bg) - benzene (9,300 ug/kg).
- GP-44 (2.5-3' bg) - 1,2,4-trimethylbenzene (160,000 ug/kg), xylenes (220,000 ug/kg).

3.2 Groundwater Analytical Results

Analytical data from groundwater samples collected on-site (Figure 3) were compared to the Commercial III RBSLs. The results of the comparison indicated that the following concentrations were detected above the Commercial III RBSLs (refer to Tables 5 and 7).

- GP-10 (7-12' bg) - benzo(a)anthracene (19 ug/L), benzo(a)pyrene (9 ug/L), benzo(b)fluoranthene (19 ug/L), benzo(k)fluoranthene (7.6 ug/L), chrysene (10 ug/L).

Analytical data from groundwater samples collected from the northern property boundary and off-site (Figure 3) were compared to the Residential RBSLs. The results of the comparison indicated that the following concentrations were detected above the Residential RBSLs (refer to Tables 6 and 8).

- MW-12 – benzene (5,700 ug/L).
- HA-1 (6-7' bg) – benzene (7,900 ug/L).
- HA-2 (6-7' bg)– anthracene (250 ug/L), benzo(a)anthracene (250 ug/L), benzo(a)pyrene (25 ug/L), benzo(b)fluoranthene (25 ug/L), benzo(g,h,i)perylene (25 ug/L), benzo(k)fluoranthene (25 ug/L), chrysene (250 ug/L), dibenzo(a,h)anthracene (25 ug/L), fluoranthene (250 ug/L), indeno(1,2,3,-cd)pyrene (25 ug/L), 2-methylnaphthalene (44,000 ug/L), pyrene (250 ug/L).

4.0 FREE PRODUCT DISCOVERY AND REPORTING

On April 16, 2003, free product was discovered on-site during a groundwater sampling event. The free product was detected in monitor well MW-15. Approximately 6-ounces (0.9-inches in thickness) of free product were removed from the well by hand-bailing with a disposable bailer and containerized in a 55-gallon steel drum (appropriately labeled and stored on-site pending disposal). All nearby monitor wells were screened for the presence of free product. Nearby storm drain catch basins and utility manholes were screened for possible hazardous or explosive vapors. The results of the screening indicated that no hazardous or explosive vapors were

quantity of free product encountered. For additional information, refer to the Quarterly Free Product Report (prepared by The Traverse Group and dated July 14, 2003).

As indicated in the July 2003 Quarterly Free Product Report, free product delineation will be conducted during the installation of the remediation system (September 2003). The next Quarterly Free Product Report is scheduled to be submitted to the Michigan Department of Environmental Quality (MDEQ) on or before October 15, 2003.

5.0 SITE CLASSIFICATION CHANGE

Since the submittal of the FAR, the site classification has changed from Class 3 to 1 due to the discovery of free product in MW-15.

6.0 CHANGES TO THE WORK PLAN OUTLINED IN THE FAR

The Work Plan summarized in the FAR (Section 5.3C) was implemented. Based on the conditions encountered in the field, additional soil borings and monitor wells were installed and the proposed sampling locations were adjusted for delineation and determination of groundwater characterization purposes.

7.0 ESTIMATED VOLUME OF IMPACTED SOIL IN THE VADOSE ZONE

The estimated volume of impacted soil above Residential RBSLs located on the northern property boundary and off-site is approximately 800 cubic yards (110 feet length x 20 feet width x 10 feet depth). The estimated volume of impacted soil above Commercial III RBSLs located on the site is approximately 300 cubic yards (10 feet length x 10 feet width x 3 feet).

8.0 SOIL REMEDIATED SINCE SUBMITTAL OF THE FAR

Since the submittal of the FAR, approximately 1,520 cubic yards of soil were removed and disposed off-site during site construction and renovation activities. The soil was transported and disposed at Waste Management Woodland Meadows landfill located in Wayne, Michigan (refer

9.0 GROUNDWATER CHARACTERIZATION AND CONDITIONS

Groundwater elevation data and contour map (April 14, 2003, elevation data) are presented in Table 9 and in Figure 7, respectively.

Site data were compared to the MDEQ Operational Memorandum No. 11 for the purpose of determining whether the groundwater at the site yields useable quantities to be considered an aquifer. The results of the comparison indicated that the groundwater encountered at the site is not an aquifer. The following findings were used for this comparison:

- Monitor wells installed within native material (clay) bailed dry after sustained bailing of less than 5-gallons, excluding the volume of groundwater initially present in the well casing and filter pack.
- Groundwater was encountered at depths ranging from 4 to 12 feet bg. As indicated in the boring logs (refer to Appendix A), saturation was observed from two-inch sand seams or fill material. In addition, the sand seams appear to be discontinuous across the site.
- Drinking water at the site and in the area is supplied by the city of Detroit. Wells installed and used for the purpose of drinking water is not allowed due to the city of Detroit Ordinance 256H.
- Five permanent monitor wells, each with 5-foot screens, were installed during the April/May 2002 investigation to obtain site hydrogeologic information. Monitor well locations are depicted on Figures 3 and 4. Limited hydrogeologic information was obtained from these wells, due to the low hydraulic conductivity of the native clays underlying the site.
- Temporary monitoring wells GP-1, GP-10, GP-39, and HA-2 bailed dry after purging and sampling.

10.0 EXPOSURE PATHWAY CHARACTERIZATION

The potential source of exposure at the facility is impacted soil. Potential transport mechanisms include volatilization and atmospheric dispersion, volatilization and closed space accumulation, leaching and groundwater transport, and utility corridors.

Soil or groundwater ingestion, direct contact with impacted soil or groundwater, and inhalation of volatilized constituents would be potential exposure routes. Potential receptors to the exposure routes would include construction workers, commercial utility workers, structures, and utility corridors. The identified exposure pathways are consistent with the FAR; therefore, no new exposure pathways were identified since the submission of the FAR.

11.0 FEASIBILITY ANALYSIS

A feasibility analysis was performed to determine the appropriate corrective action for the site. This analysis considered each option in terms of effectiveness of cleanup, duration, and cost.

11.1 Soil Corrective Action Alternatives

- *Natural Attenuation.* Impacted soils could remain in-place since there is a concrete cover over all impacted areas and existing monitor wells could be monitored quarterly. This alternative requires continued maintenance of the concrete and does not provide cleanup for contaminated soils detected above applicable RBSLs along the property boundary and off-site. This alternative will not eliminate acute risks to human health and to the environment; therefore, it is not recommended for an appropriate corrective action at the site.
- *Soil Excavation.* Impacted soil could be excavated and removed to a disposal facility. This would require the excavation and disposal of approximately 1,100 cubic yards of

- *Soil Vapor Extraction.* Soil vapor extraction is an alternative that can reduce the volume of petroleum hydrocarbons in the soil. Vent wells would be installed in the area of impacted soil and connected to a vacuum blower that would discharge to an activated carbon treatment system. Vapor would be removed in the activated carbon and then discharged to the atmosphere under the provisions of an air quality permit. A small building would be required to house the blower and activated carbon system. The Soil Vapor Extraction alternative is not viable due to the native clays underlying the site. Therefore, this alternative is not recommended.
- *Bioremediation.* The installation of a PER-PETUAL™ hydrogen peroxide remediation system (refer to Appendix B). The hydrogen peroxide will be pumped from a large storage tank through a control panel, which will regulate and distribute a very slow flow of peroxide through tubing to each injection point. Tubing will be routed through a network of trenches from the control panels to each point. There will be two types of injection points: 1) Shallow points which are designed to remediate shallow contaminated soils and 2) Deep points to remediate deeper soils and select areas with groundwater contamination. The cost of the system installation is approximately \$35,000 and the duration of cleanup is estimated as 1.5 years. The effectiveness of the PER-PETUAL™ system has been proven (refer to Appendix B for performance system data). In addition to the system, the area located near former Tank 8 would be injected (6 points) with hydrogen peroxide to enhance contaminate cleanup in a short duration. This alternative is recommended based on relatively low cost, short duration of cleanup, and proven effectiveness.

11.2 Groundwater Corrective Action Alternatives

- *Natural Attenuation.* In this alternative impacted groundwater would continue to migrate

- *Groundwater Pump and Treat.* A groundwater collection system could treat impacted groundwater by using activated carbon to remove petroleum hydrocarbons. The groundwater pump and treat alternative is not viable due to the low hydraulic conductivity of native clays underlying the site and is considered costly. Therefore, this alternative is not recommended for corrective action at the site.
- *Bioremediation.* The installation of the two separate systems ((MAV™ and PER-PETUAL™), which consists of a small 6-point system for cleanup of the free product and a larger 42-point system for cleanup of impacted soil and groundwater, will rapidly recover free product for elimination and cleanup impacted groundwater on- and off-site within approximately 1.5 years. In addition, the cost for system installation and O&M is moderate to low. This alternative is recommended for corrective action at the site based on moderate cost, effectiveness, and short-term duration for cleanup.

11.3 Feasibility Analysis Comparison Table

Corrective Action Alternative	Cost	Effectiveness	Duration
Soil Excavation	High	Good	Immediate
Soil Vapor Extraction	High	Poor	Moderate to Long-Term
Natural Attenuation	Low	Poor	Long-Term
Bioremediation Systems (MAV™ and PER-PETUAL™)	Moderate	Good	Short-Term

The selected corrective action alternative is the Bioremediation Systems. This is the most viable and cost effective option. Refer to Appendix B for Remediation System Operation and Maintenance (O&M) Manuals which also includes the system design layout for the

12.0 CORRECTIVE ACTION PLAN

12.1 Description of Corrective Actions

The corrective action will include the use of two separate systems and hydrogen peroxide injection in the immediate vicinity of former Tank 8 at the Coolidge facility. The systems and additional cleanup measures to be provided at the site are as the following:

- The Multi-Array Vacuum (MAV™) system is designed (6 point system) to recover free product for rapid elimination. The system is designed to be modified into the PER-PETUAL™ system. Refer to Appendix B for system details on installation, operation, and maintenance.
- The PER-PETUAL™ system is designed (42-point system) to clean up contaminated soil (particularly clayey soils) and groundwater by injecting hydrogen peroxide through selected injection points (refer to Appendix B for system design layout). The hydrogen peroxide converts to hydroxyl free radicals, which breakdown organic compounds. The oxidation of organic compounds reduces the carbon chain into smaller and smaller particles (ultimately converting to carbon dioxide, water, and simple compounds). Refer to Appendix B for system details on installation, operation, and maintenance).
- Six shallow injection points (separate from the above systems) will be installed to insert hydrogen peroxide in the immediate vicinity of former Tank 8 to provide rapid cleanup of impacted soils.

12.2 System Construction and Installation

MAV™ System

The MAV™ system construction details and figure depicting the installation/construction of the system are included in Appendix B. The next section describes the installation of the PER-PETUAL™ system.

turned off if desired. The free product that intersects each MAV™ extraction point is recovered into the screen by the vacuum being conveyed through the system.

The installation of each MAV™ point will be installed by hand-auger techniques and hollow-stem auger (HAS) drilling. The borehole will be advanced to just below the groundwater interface. Over drilling the borehole by 2 feet will allow easy movement of the MAV™ point (up or down as needed). The points will be installed in the immediate area of MW-15 (system configured so that 1 foot stainless steel MAV™ screen bisects the groundwater interface within the free product plume), where free product is present. Free product will be delineated during the installation of the system. Six points are proposed; however, additional points may be installed based on field conditions encountered during system installation activities. The points will be installed in a grid fashion (10 feet grid spacing). The length of each point will be constructed on-site and customized for the well screen to intersect the groundwater interface (according to depth of groundwater at the location). Due to the surface topography and depth of groundwater, the MAV™ point locations and lengths may change from each location to the next. To accommodate for these changes, each MAV™ length point will be surveyed and calculated to allow for a margin of error. In areas anticipated to have fluctuations in depth to groundwater, couplers and extensions will be added or removed to and from the riser pipe to allow for adjustability of the screen.

As indicated in Section 11.1, the MAV™ system will be designed to be modified into the PER-PETUAL™ system. The MAV™ system works using a vac-truck for 36-hours, once per month.

PER-PETUAL™ System

Hydrogen peroxide will be pumped from a large storage tank through a control panel, which will regulate and distribute a slow flow of peroxide through tubing to each injection point (refer to Appendix B for system design layout for the site). Tubing will be routed through a network of trenches (consisting of 6" to 8" wide x 24" deep, level bottom, 750 linear feet) from the control panels to each point. There will be two types of injection points: 1) Shallow points designed to

Backfill will consist of 3 feet sand, 1 foot bentonite, and the remainder with cuttings. The tubing installation will consist of 3/8" outer diameter (OD) x 1/4" inner diameter (ID) polyethylene or HDPE tubing rated to 160 psi. Tubing will be routed through trenches from the control panel to each injection point. All of the trenches will be backfilled with pea gravel. The pavement will be restored to the existing pavement thickness. Concrete trenches will be pinned with 1/2" x 4" rebar on 18" centers on opposite walls of the trench cut. All waste soil and materials will be containerized and disposed of. Refer to Appendix B for additional system details.

12.3 Operation and Maintenance Plan

The installation for the system is scheduled for mid September 2003. Prior to system installation, a baseline sampling event will be conducted for existing monitor wells located on the north portion of the site and off-site. The MAV™ system will operate using a vac-truck for 36-hours, once per month. Upon completion of the recovery of free product, the system will be modified to the PER-PETUAL™ system.

The PER-PETUAL™ system will operate by continually injecting a regulated amount of hydrogen peroxide into the injection point. The average injection pressure is estimated between 25 to 75 psi. The pressure will be automatically regulated by the control panel. The hydrogen peroxide will drain by gravity through the control panel and tubing into the injection points. Since the system is designed to self-regulate, increased pressure developed during chemical oxidation and bioremediation (exceeding the pressure of the supplied compressed gas) at specific injection points will be automatically stopped by the control panel and later resume when the pressure drops. Hydrogen peroxide flow to the points that do not exceed the pressure of the supplied compressed gas will continue.

The maintenance of the system requires that the hydrogen peroxide tanks be refilled as needed. The intervals at which they are refilled will depend upon the amount of the hydrogen peroxide absorbed by oxidation and bioactivity.

month. After the first month, the system effectiveness will be monitored once per month for the next two months and then quarterly thereafter.

The groundwater samples collected will be submitted for laboratory analysis of BTEX, 1,2-dichloroethane, 1,2-dibromoethane, naphthalene, 2-methylnaphthalene, and TMBs by U.S. EPA Method 8260, PNAs by U.S. EPA Method 8270, and lead by U.S. EPA Method 6020. The results of the sample analysis will determine whether any adjustments to the amount of hydrogen peroxide being injected are required.

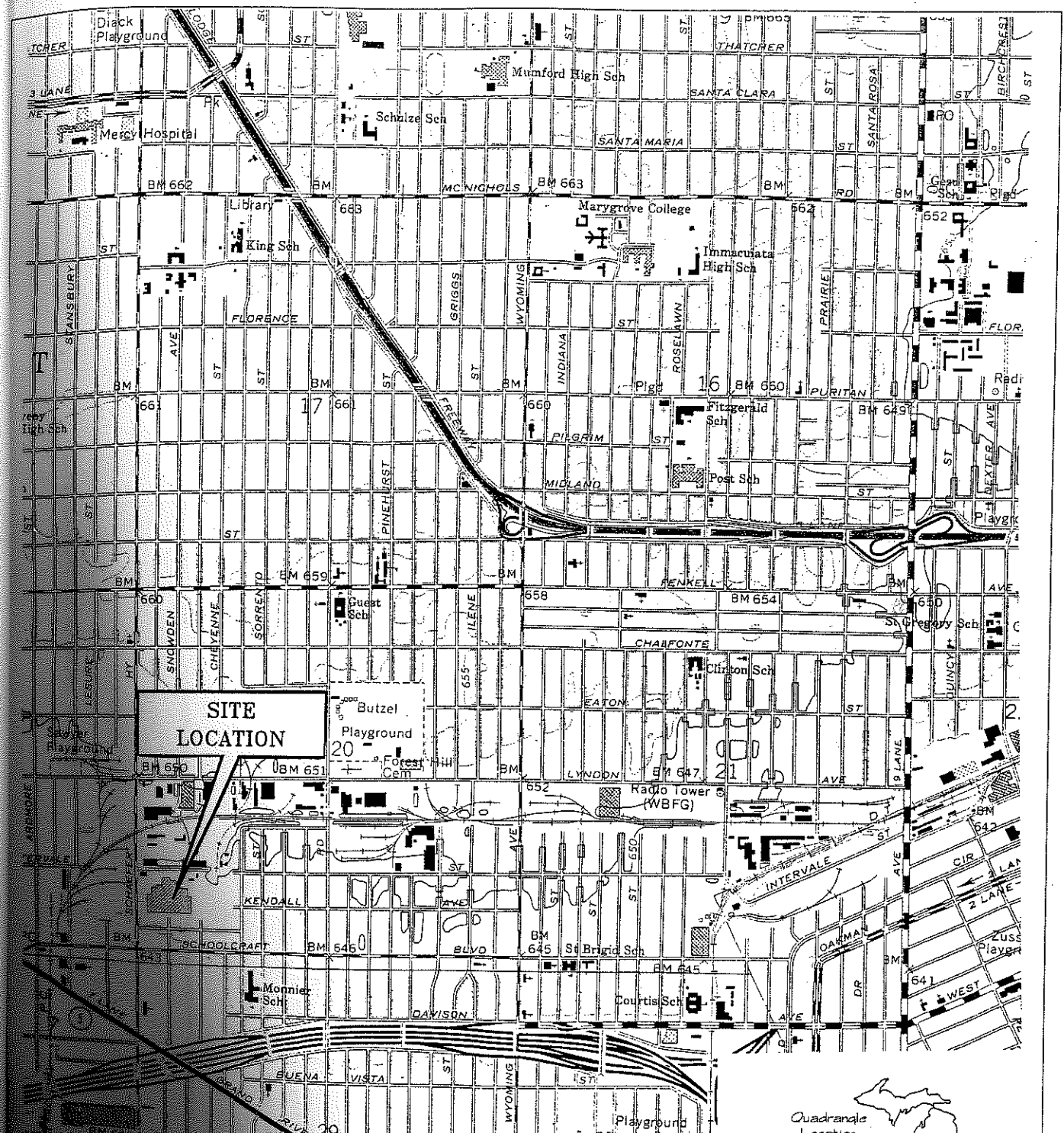
Quarterly monitoring results will be submitted to the MDEQ on a quarterly basis. Sampling protocol and procedures that will be conducted in accordance to the SOPs provided in Appendix D.

12.5 System Shutdown and Closure

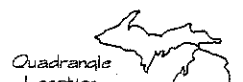
Once appropriate RBSLs are achieved, the system will be shut-down. After system shut-down, quarterly sampling will be conducted for one year to monitor site conditions after shut-down. If site data indicates that contaminant concentrations are below applicable RBSLs after one year of monitoring, then the site will be prepared for closure.

In preparation for site closure, soil verification samples will be collected to determine if site conditions meet the criteria for closure. Upon determination of the site data meeting the requirements for closure, a Closure Report will be prepared and submitted to the MDEQ. The hydrogen peroxide storage tank, control panel, and the tubing will be removed upon approval of closure. The injection points will be decommissioned in-place with a bentonite/cement grout from the top of the tubes down into the injection points to seal the system and stop the movement of future contamination into the soil and groundwater.

FIGURES

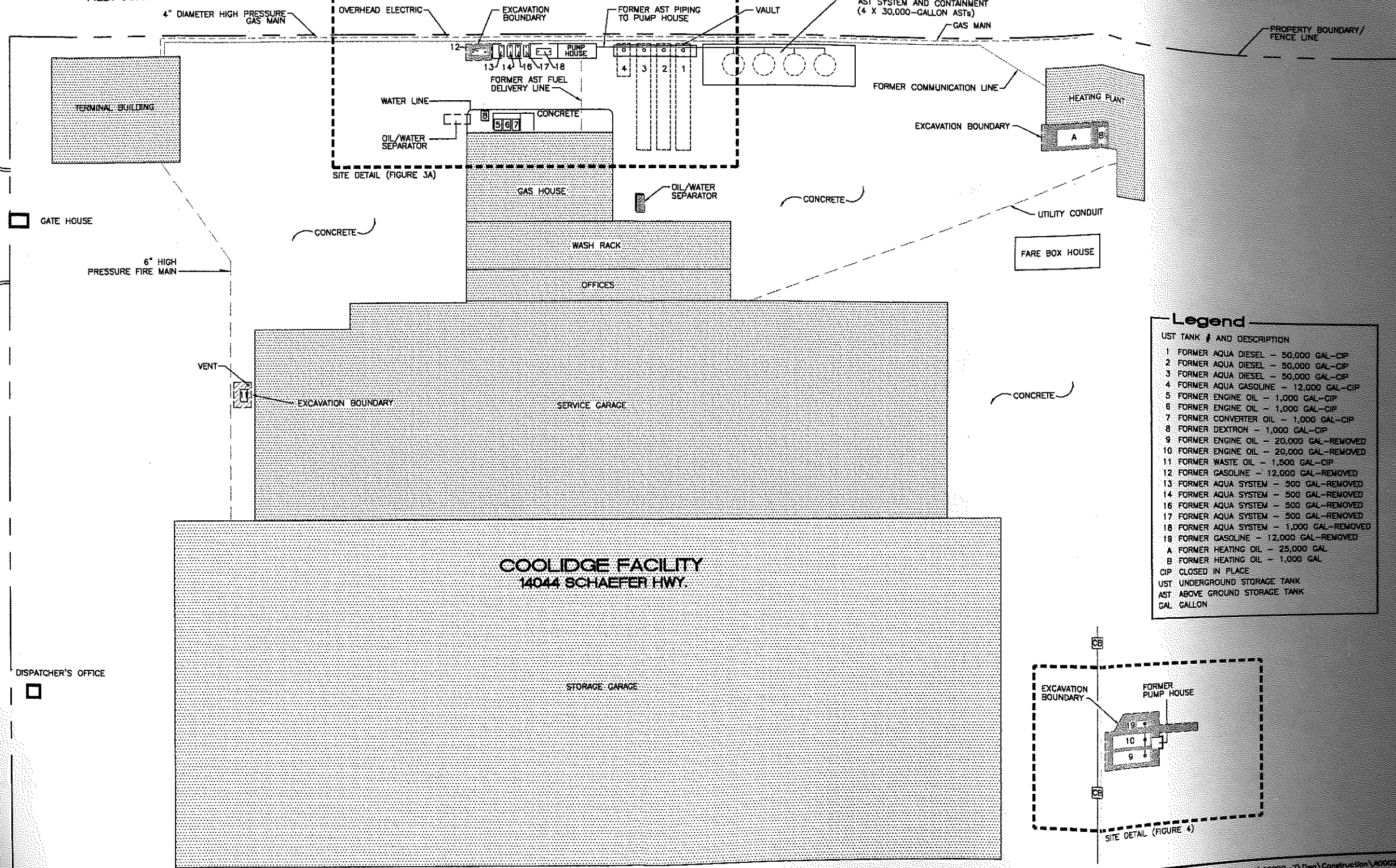


**SITE
LOCATION**



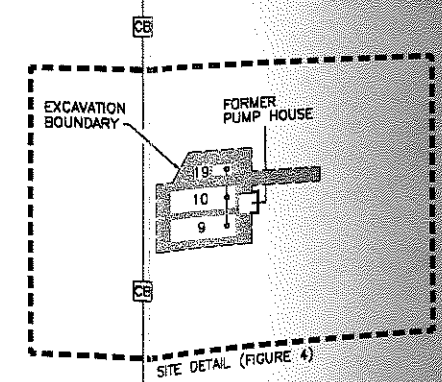


O.H. FRISBIE MOVING AND STORAGE PROPERTY
14226 SCHAEFER HWY.



Legend

- UST TANK # AND DESCRIPTION
- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
 - 5 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 6 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
 - 8 FORMER DEXTRON - 1,000 GAL-CIP
 - 9 FORMER ENGINE OIL - 20,000 GAL-REMOVED
 - 10 FORMER ENGINE OIL - 20,000 GAL-REMOVED
 - 11 FORMER WASTE OIL - 1,500 GAL-CIP
 - 12 FORMER GASOLINE - 12,000 GAL-REMOVED
 - 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
 - 19 FORMER GASOLINE - 12,000 GAL-REMOVED
 - A FORMER HEATING OIL - 25,000 GAL
 - B FORMER HEATING OIL - 1,000 GAL
- CIP CLOSED IN PLACE
UST UNDERGROUND STORAGE TANK
AST ABOVE GROUND STORAGE TANK
GAL GALLON



COMMERCIAL PROPERTY (VACANT BODY SHOP)

SCHAEFER HIGHWAY

COOLIDGE FACILITY
14044 SCHAEFER HWY.

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE

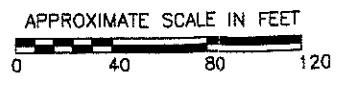


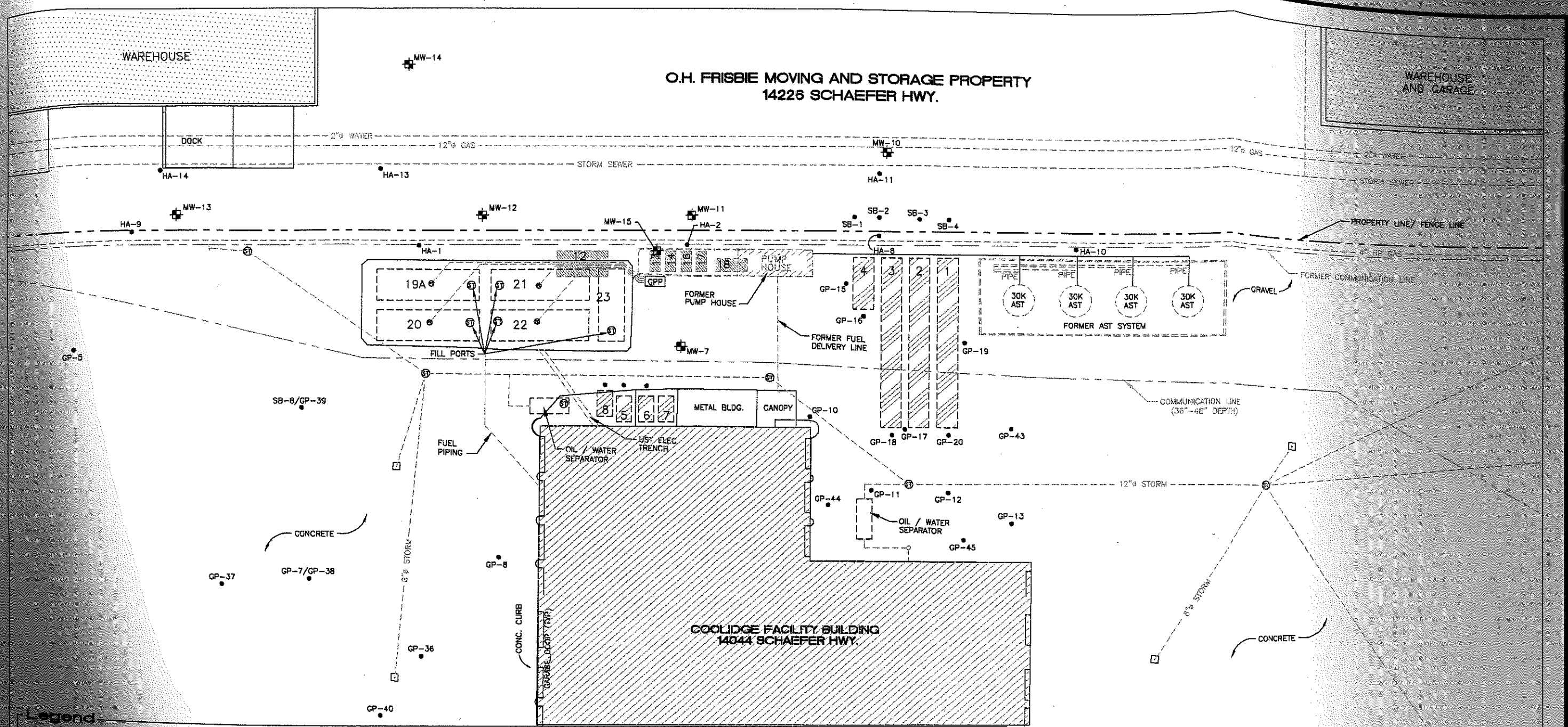
FIGURE 2
FORMER UST LOCATIONS AND EXCAVATION BOUNDARIES
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



REV: 06/21/03 RW CHKD: CP

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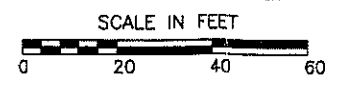
O.H. FRISBIE MOVING AND STORAGE PROPERTY
14225 SCHAEFER HWY.



Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- ABOVE GROUND STORAGE TANK
- UNDERGROUND STORAGE TANK
- SOIL BORING
- MONITOR WELL
- CATCH BASIN
- STORM MH
- FILL PORT
- GAS DISPENSER
- UNDERGROUND UTILITY

UST # AND DESCRIPTION	UST # AND DESCRIPTION	UST # AND DESCRIPTION
1 FORMER AQUA DIESEL - 50,000 GAL-CIP	12 FORMER GASOLINE - 12,000 GAL-REMOVED	20 DIESEL 25,000 GAL - IN OPERATION
2 FORMER AQUA DIESEL - 50,000 GAL-CIP	13 FORMER AQUA SYSTEM - 500 GAL-REMOVED	21 DIESEL 25,000 GAL - IN OPERATION
3 FORMER AQUA DIESEL - 50,000 GAL-CIP	14 FORMER AQUA SYSTEM - 500 GAL-REMOVED	22 DIESEL 25,000 GAL - IN OPERATION
4 FORMER AQUA GASOLINE - 12,000 GAL-CIP	16 FORMER AQUA SYSTEM - 500 GAL-REMOVED	23 GASOLINE 10,000 GAL - IN OPERATION
5 FORMER ENGINE OIL - 1,000 GAL-CIP	17 FORMER AQUA SYSTEM - 500 GAL-REMOVED	CIP CLOSED-IN-PLACE
6 FORMER ENGINE OIL - 1,000 GAL-CIP	18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED	GAL GALLON
7 FORMER CONVERTER OIL - 1,000 GAL-CIP	19A DIESEL 25,000 GAL - IN OPERATION	
8 FORMER DEXTRON - 1,000 GAL-CIP		



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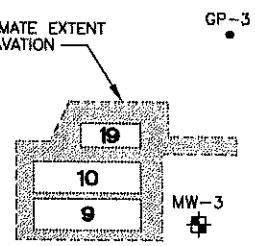
FIGURE 3
SITE SKETCH
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



COOLIDGE FACILITY
BUILDING

STORM SEWER

APPROXIMATE EXTENT
OF EXCAVATION



Legend

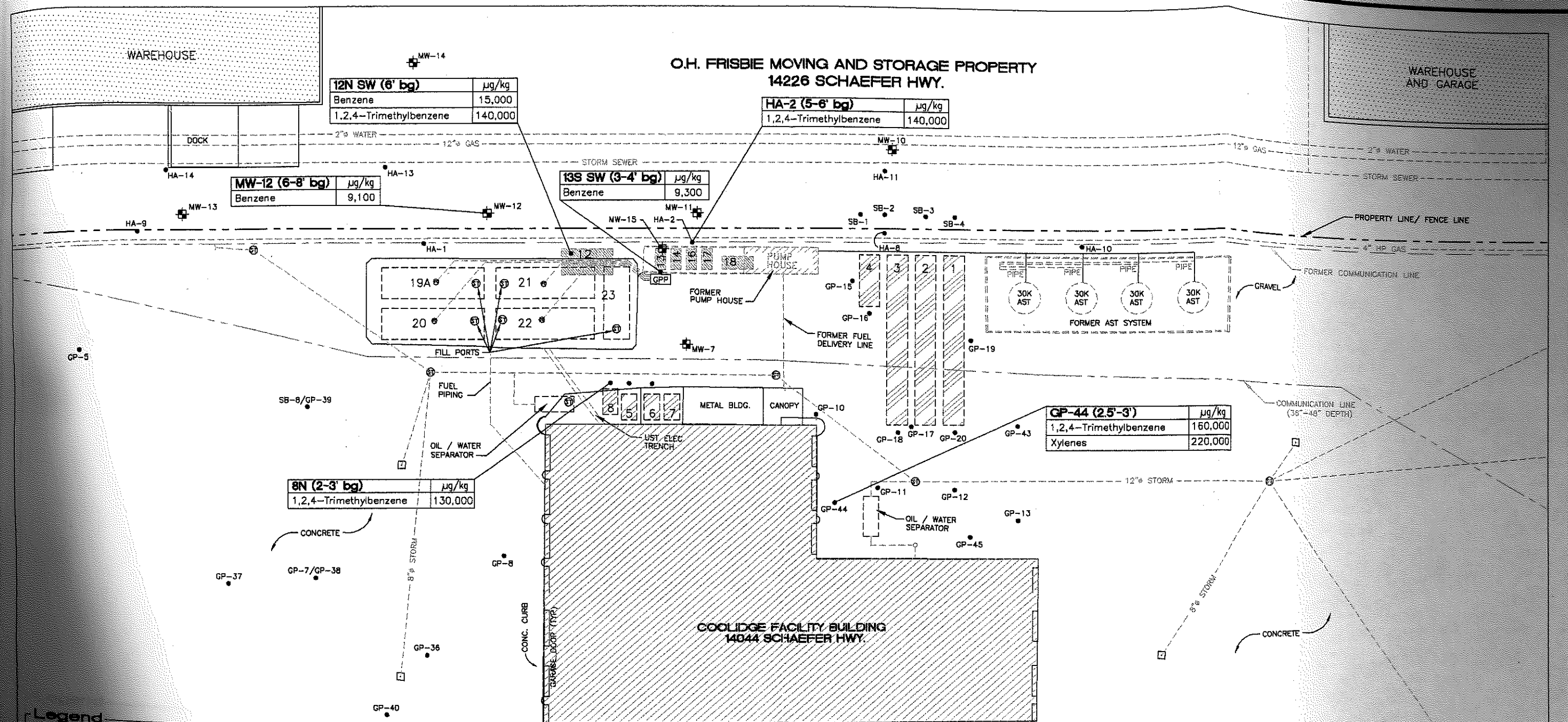
- Soil Boring Location
- ⊕ Monitor Well Location
- ☐ Catch Basin
- 9 Former Engine Oil - 20,000 GAL UST
- 10 Former Engine Oil - 20,000 GAL UST
- 19 Former Gasoline - 12,000 GAL UST

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE

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FIGURE 4
SAMPLE LOCATIONS FOR TANKS 9, 10, & 19
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



12N SW (6'-8' bg)		µg/kg
Benzene		15,000
1,2,4-Trimethylbenzene		140,000

HA-2 (5'-6' bg)		µg/kg
1,2,4-Trimethylbenzene		140,000

MW-12 (6'-8' bg)		µg/kg
Benzene		9,100

13S SW (3'-4' bg)		µg/kg
Benzene		9,300

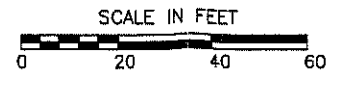
GP-44 (2.5'-3')		µg/kg
1,2,4-Trimethylbenzene		160,000
Xylenes		220,000

8N (2'-3' bg)		µg/kg
1,2,4-Trimethylbenzene		130,000

Legend

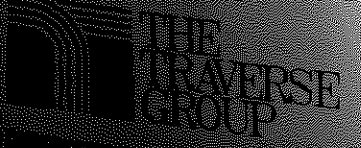
- UST REMOVED
- UST CLOSED-IN-PLACE
- AST ABOVE GROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- SOIL BORING
- MONITOR WELL
- CATCH BASIN
- STORM MH
- FILL PORT
- GAS DISPENSER
- UNDERGROUND UTILITY

- | UST # AND DESCRIPTION | UST # AND DESCRIPTION | UST # AND DESCRIPTION |
|---|---|---------------------------------------|
| 1 FORMER AQUA DIESEL - 50,000 GAL-CIP | 12 FORMER GASOLINE - 12,000 GAL-REMOVED | 20 DIESEL 25,000 GAL - IN OPERATION |
| 2 FORMER AQUA DIESEL - 50,000 GAL-CIP | 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED | 21 DIESEL 25,000 GAL - IN OPERATION |
| 3 FORMER AQUA DIESEL - 50,000 GAL-CIP | 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED | 22 DIESEL 25,000 GAL - IN OPERATION |
| 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP | 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED | 23 GASOLINE 10,000 GAL - IN OPERATION |
| 5 FORMER ENGINE OIL - 1,000 GAL-CIP | 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED | CIP CLOSED-IN-PLACE |
| 6 FORMER ENGINE OIL - 1,000 GAL-CIP | 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED | GAL GALLON |
| 7 FORMER CONVERTER OIL - 1,000 GAL-CIP | 19A DIESEL 25,000 GAL - IN OPERATION | |
| 8 FORMER DEXTRON - 1,000 GAL-CIP | | |

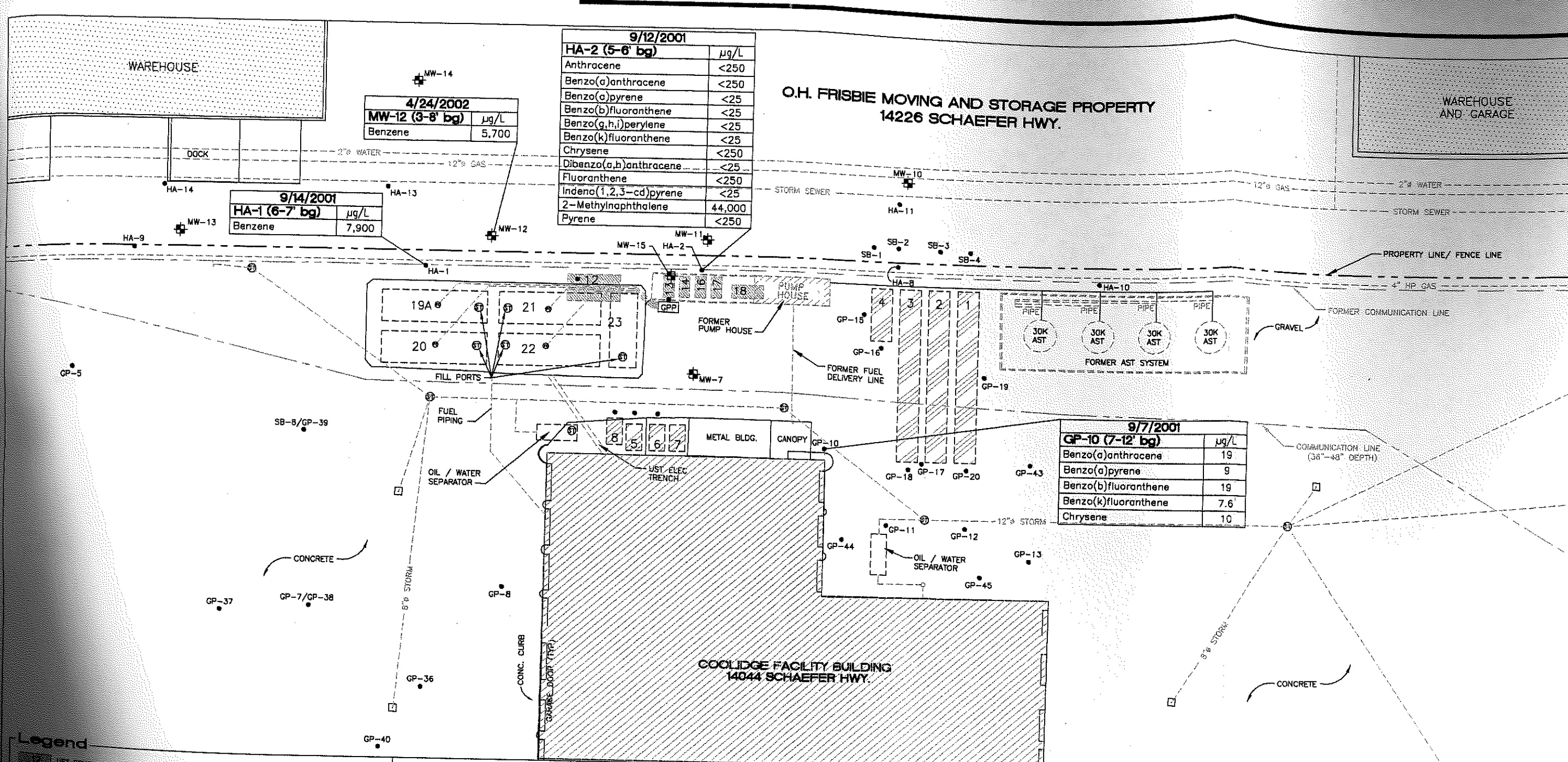


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FIGURE 5
MAXIMUM SOIL CONCENTRATIONS
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



REV 08/26/03 RW CHK: GP



9/12/2001

HA-2 (5-6' bg)	µg/L
Anthracene	<250
Benzo(a)anthracene	<250
Benzo(a)pyrene	<25
Benzo(b)fluoranthene	<25
Benzo(g,h,i)perylene	<25
Benzo(k)fluoranthene	<25
Chrysene	<250
Dibenzo(a,h)anthracene	<25
Fluoranthene	<250
Indeno(1,2,3-cd)pyrene	<25
2-Methylnaphthalene	44,000
Pyrene	<250

4/24/2002

MW-12 (3-8' bg)	µg/L
Benzene	5,700

9/14/2001

HA-1 (6-7' bg)	µg/L
Benzene	7,900

9/7/2001

GP-10 (7-12' bg)	µg/L
Benzo(a)anthracene	19
Benzo(a)pyrene	9
Benzo(b)fluoranthene	19
Benzo(k)fluoranthene	7.6
Chrysene	10

Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- AST ABOVE GROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- SOIL BORING
- MONITOR WELL
- CATCH BASIN
- STORM MH
- FILL PORT
- GAS DISPENSER
- UNDERGROUND UTILITY

UST # AND DESCRIPTION

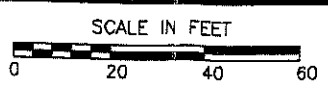
- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
- 5 FORMER ENGINE OIL - 1,000 GAL-CIP
- 6 FORMER ENGINE OIL - 1,000 GAL-CIP
- 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
- 8 FORMER DEXTRON - 1,000 GAL-CIP

UST # AND DESCRIPTION

- 12 FORMER GASOLINE - 12,000 GAL-REMOVED
- 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
- 19A DIESEL 25,000 GAL - IN OPERATION

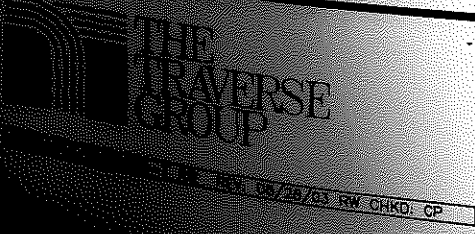
UST # AND DESCRIPTION

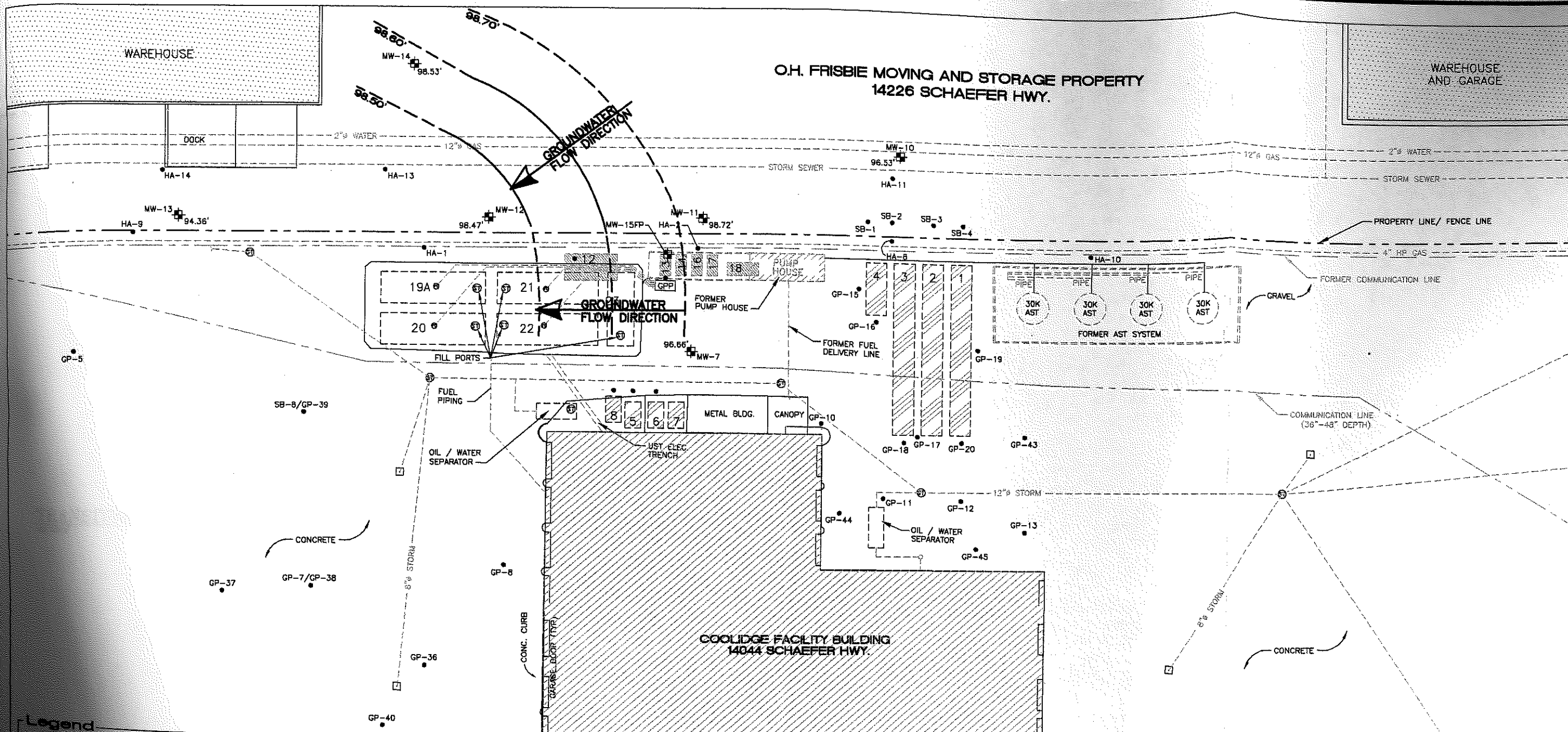
- 20 DIESEL 25,000 GAL - IN OPERATION
- 21 DIESEL 25,000 GAL - IN OPERATION
- 22 DIESEL 25,000 GAL - IN OPERATION
- 23 GASOLINE 10,000 GAL - IN OPERATION
- CIP CLOSED-IN-PLACE
- GAL GALLON



FILE LOCATION: V:\Projects 1999\99999-7\DWG\Construction\A0204016.dwg

FIGURE 6
MAXIMUM GROUNDWATER CONCENTRATIONS
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

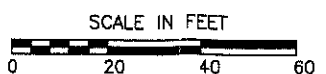




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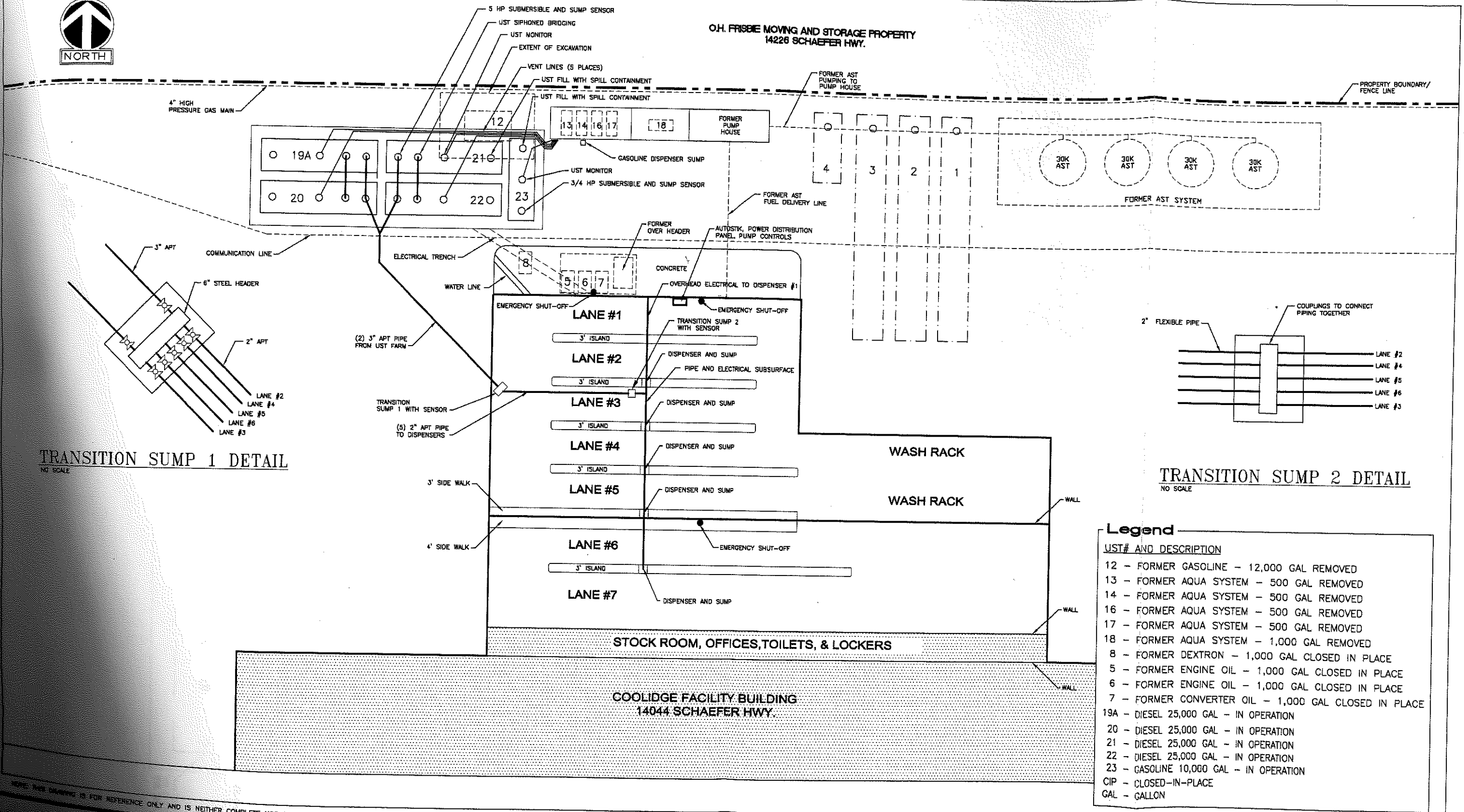
- UST REMOVED
- UST CLOSED-IN-PLACE
- ABOVE GROUND STORAGE TANK
- UNDERGROUND STORAGE TANK
- MONITOR WELL
- CATCH BASIN
- STORM MH
- FILL PORT
- GAS DISPENSER
- UNDERGROUND UTILITY
- GROUNDWATER ELEVATION (4/16/03)
- GROUNDWATER CONTOUR (FEET)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

UST # AND DESCRIPTION	UST # AND DESCRIPTION	UST # AND DESCRIPTION
1 FORMER AQUA DIESEL - 50,000 GAL-CIP	12 FORMER GASOLINE - 12,000 GAL-REMOVED	20 DIESEL 25,000 GAL - IN OPERATION
2 FORMER AQUA DIESEL - 50,000 GAL-CIP	13 FORMER AQUA SYSTEM - 500 GAL-REMOVED	21 DIESEL 25,000 GAL - IN OPERATION
3 FORMER AQUA DIESEL - 50,000 GAL-CIP	14 FORMER AQUA SYSTEM - 500 GAL-REMOVED	22 DIESEL 25,000 GAL - IN OPERATION
4 FORMER AQUA GASOLINE - 12,000 GAL-CIP	16 FORMER AQUA SYSTEM - 500 GAL-REMOVED	23 GASOLINE 10,000 GAL - IN OPERATION
5 FORMER ENGINE OIL - 1,000 GAL-CIP	17 FORMER AQUA SYSTEM - 500 GAL-REMOVED	CIP CLOSED-IN-PLACE
6 FORMER ENGINE OIL - 1,000 GAL-CIP	18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED	GAL GALLON
7 FORMER CONVERTER OIL - 1,000 GAL-CIP	19A DIESEL 25,000 GAL - IN OPERATION	
8 FORMER DEXTRON - 1,000 GAL-CIP		



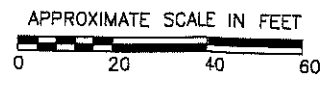
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FIGURE 7
GROUNDWATER CONTOUR
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN



TRANSITION SUMP 1 DETAIL
NO SCALE

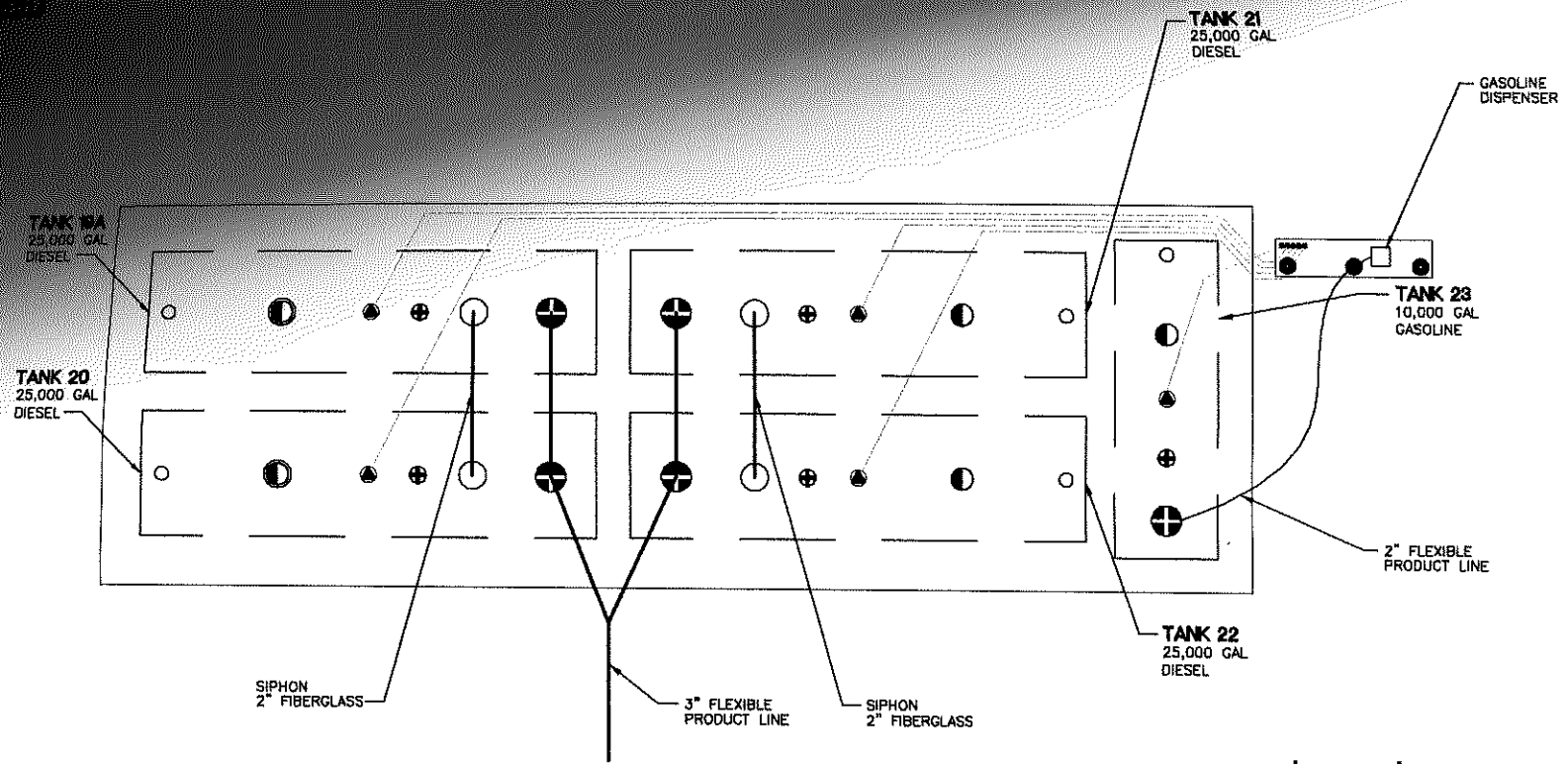
TRANSITION SUMP 2 DETAIL
NO SCALE



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FIGURE 8
SCHEMATIC OF UST SYSTEM
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

THE TRAVERSE GROUP
DATE: 05/21/03 RW CHKD: DP



Legend

●	Fill Port
⊕	Submersible Pump
⊕	Tank Monitor
●	Tank Vent
○	Interstitial Monitor

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE

V:\Projects 1999\99999-7\Drawg\A01100001.dwg

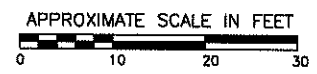


FIGURE 9
VENT LINE AND TANK TOP DETAIL
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

TABLES

Table 1
Summary of Soil Analysis
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

Chemical Sample	Commercial III Soil Volatilization to Indoor Air RBSL (µg/kg)	Commercial III Infinite Source Volatile Soil Inhalation RBSL (VSIC) (µg/kg)	Commercial III Direct Contact RBSL (µg/kg)	Most Restrictive RBSL (µg/kg)	10E SIDEWALL 6' bg (µg/kg)	10W SIDEWALL 8' bg (µg/kg)	PIPE RUN 3' bg (µg/kg)	11S BOTTOM 11-12' (µg/kg)	11N BOTTOM 10-11' (µg/kg)	13S BOTTOM 8' bg (µg/kg)	13N BOTTOM 8' bg (µg/kg)	13S SIDEWALL 3-4' bg (µg/kg)	14S BOTTOM 8' bg (µg/kg)	14N BOTTOM 8' bg (µg/kg)	16S BOTTOM 8' bg (µg/kg)	16N BOTTOM 8' bg (µg/kg)	16S SIDEWALL 4-6' bg (µg/kg)	17S BOTTOM 8' bg (µg/kg)	17N BOTTOM 8' bg (µg/kg)	18E BOTTOM 8' bg (µg/kg)	18W BOTTOM 8' bg (µg/kg)
Date Collected					12/20/1999	12/20/1999	12/21/1999	12/30/1999	12/30/1999	12/29/1999	12/29/1999	12/30/1999	12/29/1999	12/29/1999	12/29/1999	12/29/1999	12/30/1999	12/29/1999	12/29/1999	12/29/1999	12/29/1999
PID Reading (ppmv)					NA	NA	NA	0	0	ND	ND	ND	30	ND	8	90	100	55	75	ND	1
VOCs (Method 8260)																					
Date Extracted					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Date Analyzed					12/23/1999	12/23/1999	12/27/1999	NA	NA	NR	NR	NR	1/6/2000	1/6/2000	1/6/2000	1/6/2000	1/7/2000	1/6/2000	1/6/2000	1/6/2000	1/6/2000
Benzene	8,400	45,000	400,000(C)	8,400	380	190	ND	NA	NA	ND	ND	9,300	ND	ND	ND	ND	5,800	ND	ND	ND	ND
1,2-Dichloroethane	11,000	21,000	1,100,000	11,000	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	5,900,000(C)	30,000,000	5,900,000(C)	5,900,000	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	3,600	5,800	1,200	3,600	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	140,000(C)	11,000,000	140,000(C)	140,000	1,400	130	390	NA	NA	ND	ND	11,000	ND	ND	ND	ND	2,800	ND	ND	ND	ND
Naphthalene	470,000	350,000	140,000,000	350,000	3,300	1,300	510	NA	NA	ND	ND	65,000	3,800	ND	2,700	750	48,000	6,500	7,600	ND	ND
2-Methylnaphthalene	ID	ID	72,000,000	72,000,000	7,300	4,500	2,100	NA	NA	ND	ND	200,000	2,700	ND	16,000	7,700	280,000	13,000	9,200	ND	ND
Toluene	250,000(C)	3,300,000	250,000(C)	250,000	1,200	ND	100	NA	NA	ND	ND	250	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	110,000(C)	25,000,000	110,000(C)	110,000	3,100	95	860	NA	NA	ND	ND	47,000	95	220	75	590	2,400	530	370	ND	ND
1,3,5-Trimethylbenzene	94,000(C)	19,000,000	94,000(C)	94,000	1,600	ND	380	NA	NA	ND	ND	14,000	ND	58	ND	210	390	95	ND	ND	ND
Xylenes	150,000(C)	54,000,000	150,000(C)	150,000	5,600	ND	650	NA	NA	ND	ND	17,000	ND	ND	ND	120	460	170	130	ND	ND
PAHs (Method 8270)																					
Date Extracted					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Date Analyzed					12/28/1999	12/28/1999	1/3/2000	1/10/2001	1/10/2001	NR	NR	NR	1/4/2000	1/4/2000	1/4/2000	1/4/2000	1/10/2000	1/4/2000	1/4/2000	1/4/2000	1/4/2000
Acenaphthene	350,000,000	97,000,000	360,000,000	97,000,000	ND	ND	17,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	3,000,000	2,700,000	14,000,000	2,700,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	440	ND	ND	ND	ND
Anthracene	1,000,000,000 (D)	1,600,000,000	1,000,000,000(D)	1,000,000,000	ND	ND	5,300	ND	ND	ND	ND	830	ND	ND	ND	ND	1,200	ND	ND	ND	ND
Benzo(a)anthracene	NLV	NLV	300,000	300,000	ND	ND	11,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	NLV	NLV	30,000	30,000	ND	ND	19,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NLV	NLV	300,000	300,000	ND	ND	3,300	ND	ND	ND	ND	950	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	NLV	NLV	27,000,000	27,000,000	ND	ND	4,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(e)pyrene	NLV	NLV	3,000,000	3,000,000	ND	ND	8,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)fluoranthene	ID	ID	30,000,000	30,000,000	ND	ND	16,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	NLV	NLV	30,000	30,000	ND	ND	2,800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	1,000,000,000 (D)	890,000,000	460,000,000	460,000,000	ND	ND	4,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,700	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,000,000,000 (D)	150,000,000	240,000,000	150,000,000	ND	ND	2,100	ND	ND	ND	ND	520	ND	ND	ND	ND	2,000	ND	ND	ND	ND
1-Methylanthracene	NLV	NLV	300,000	300,000	ND	ND	12,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ID	ID	72,000,000	72,000,000	1,600	ND	15,000	ND	ND	ND	ND	32,000	ND	ND	ND	ND	53,000	490	1,200	ND	ND
Fluoranthene	470,000	350,000	140,000,000	350,000	1,500	ND	4,900	ND	ND	ND	ND	9,200	ND	ND	ND	ND	13,000	430	640	ND	ND
Pyrene	3,300,000	11,000	14,000,000	11,000	ND	ND	11,000	ND	ND	ND	ND	940	ND	ND	ND	ND	5,900	ND	ND	ND	ND
Benzo(a)pyrene	1,000,000,000 (D)	780,000,000	290,000,000	290,000,000	410	ND	16,000	ND	ND	ND	ND	870	ND	ND	ND	ND	1,500	ND	ND	ND	ND
Date Extracted					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Date Analyzed					12/28/1999	12/29/1999	1/3/2000	1/12/2001	1/12/2001	NA	NA	NA	1/12/1999	1/12/1999	1/12/1999	1/12/1999	1/12/1999	1/12/1999	1/12/1999	1/12/1999	1/12/1999
Acenaphthene	NLV	NLV	400,000	400,000	59,000	7,200	39,000	3,200	2,600	4,800	5,400	2,000	8,000	5,400	5,400	5,300	2,900	5,400	6,700	5,200	4,100

Concentration is a screening level based on the chemical-specific generic soil saturation concentration (C_{sat}) since the calculated risk- based concentration is greater than C_{sat} are acceptable cleanup criteria for this pathway where a site-specific concentration is not present. NA = Not Applicable or not requested for analysis. NLV = Hazardous substance is not likely to volatilize under most conditions. ND = Not detected at or above the MDEQ method detection limit.

**Table 1
Summary of Soil Analysis
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan**

Chemical ↓ Sample ⇒	Commercial III Soil Volatilization to Indoor Air RBSL (µg/kg)	Commercial III Infinite Source Volatile Soil Inhalation RBSL (YSIC) (µg/kg)	Commercial III Direct Contact RBSL (µg/kg)	Most Restrictive RBSL (µg/kg)	GP-36 3-3.5' bg (µg/kg)	GP-38 2.5-3' bg (µg/kg)	GP-39 2.5-3' bg (µg/kg)	GP-40 2.5-3' bg (µg/kg)	GP-43 2.5-3' bg (µg/kg)	GP-44 2.5-3' bg (µg/kg)	GP-45 2.5-3' bg (µg/kg)	MDL (µg/kg)
Date Collected					12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	
PID Reading (ppmv)					40	ND	ND	47	21	152	4	
VOCs (Method 8260)												
Date Extracted					12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	12/2/2002	
Date Analyzed					12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	
Benzene	8,400	45,000	400,000(C)	8,400	ND	ND	ND	ND	ND	ND	ND	50
1,2-Dichloroethane	11,000	21,000	1,100,000	11,000	ND	ND	ND	ND	ND	ND	ND	50
Methyl tert-butyl ether (MTBE)	5,900,000(C)	30,000,000	5,900,000(C)	5,900,000	NA	NA	NA	NA	NA	NA	NA	50
1,2-Dibromoethane	3,600	5,800	1,200	1,200	ND	ND	ND	ND	ND	ND	ND	50
Ethylbenzene	140,000(C)	11,000,000	140,000(C)	140,000	62	ND	ND	ND	110	36,000	ND	50
Naphthalene	470,000	350,000	140,000,000	350,000	NA	NA	NA	NA	NA	NA	NA	250
2-Methylnaphthalene	ID	ID	72,000,000	72,000,000	NA	NA	NA	NA	NA	NA	NA	250
Toluene	250,000(C)	3,300,000	250,000(C)	250,000	ND	ND	ND	ND	360	44,000	ND	50
1,2,4-Trimethylbenzene	110,000(C)	25,000,000	110,000(C)	110,000	3,400	ND	ND	25,000	1,400	160,000	120	50
1,3,5-Trimethylbenzene	94,000(C)	19,000,000	94,000(C)	94,000	1,200	ND	ND	8,600	430	42,000	ND	100
Xylenes	150,000(C)	54,000,000	150,000(C)	150,000	640	ND	ND	5,700	1,100	220,000	ND	150
PNAs (Method 8270)												
Date Extracted					12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	
Date Analyzed					12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	
Acenaphthylene	350,000,000	97,000,000	360,000,000	97,000,000	ND	ND	ND	ND	ND	ND	ND	330
Acenaphthylene	3,000,000	2,700,000	14,000,000	2,700,000	ND	ND	ND	ND	ND	ND	ND	330
Anthracene	1,000,000,000 (D)	1,600,000,000 (D)	1,000,000,000 (D)	1,000,000,000 (D)	ND	ND	ND	ND	ND	ND	ND	330
Benzo(a)anthracene	NLV	NLV	300,000	300,000	ND	ND	ND	ND	ND	ND	ND	330
Benzo(a)pyrene	NLV	NLV	30,000	30,000	ND	ND	ND	ND	ND	ND	ND	330
Benzo(b)fluoranthene	NLV	NLV	300,000	300,000	ND	ND	ND	ND	ND	ND	ND	330
Benzo(g,h,i)perylene	NLV	NLV	27,000,000	27,000,000	ND	ND	ND	ND	ND	ND	ND	330
Benzo(k)fluoranthene	NLV	NLV	3,000,000	3,000,000	ND	ND	ND	ND	ND	ND	ND	330
Chrysene	ID	ID	30,000,000	30,000,000	ND	ND	ND	ND	ND	ND	ND	330
Dibenzo(a,h)anthracene	NLV	NLV	30,000	30,000	ND	ND	ND	ND	ND	ND	ND	330
Fluoranthene	1,000,000,000 (D)	890,000,000	460,000,000	460,000,000	ND	ND	ND	ND	ND	ND	ND	580
Fluorene	1,000,000,000 (D)	150,000,000	240,000,000	150,000,000	ND	ND	ND	ND	ND	ND	ND	330
Indeno(1,2,3-cd)pyrene	NLV	NLV	300,000	300,000	ND	ND	ND	ND	ND	ND	ND	330
2-Methylnaphthalene	ID	ID	72,000,000	72,000,000	23,000	ND	ND	46,000	ND	4,800	ND	330
Naphthalene	470,000	350,000	140,000,000	350,000	10,000	ND	ND	18,000	ND	5,400	ND	330
Phenanthrene	3,300,000	11,000	14,000,000	11,000	400	ND	ND	ND	ND	ND	470	330
Pyrene	1,000,000,000 (D)	780,000,000	290,000,000	290,000,000	ND	ND	ND	ND	ND	ND	450	330
METALS (Method 6020)												
Date Extracted					12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	
Date Analyzed					12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	
Lead	NLV	NLV	400,000	400,000	7,200	8,300	2,300	4,300	6,300	4,500	8,600	1,000

Highlighted and shaded values exceed one or more listed Cleanup Criteria.

C = Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C_{sat}) since the calculated risk-based RBSL is greater than C_{sat}. Concentrations greater than C_{sat} are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase contaminant is not present. NA = Not Applicable or not requested for analysis. NLV = Hazardous substance is not likely to leach under most soil conditions. NLV = Hazardous substance is not likely to volatilize under most conditions. ID = Inadequate data to develop RBSL. ND = Not detected at or above the MDEQ method detection limit.

**Table 2
Summary of Soil Analysis
Property Boundary and Off-Site
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan**

Chemical ↓ Sample →	Residential Soil Volatilization to Indoor Air RBSL (µg/kg)	Residential Infinite Source Volatile Soil Inhalation RBSL (VSIC) (µg/kg)	Residential Direct Contact RBSL (µg/kg)	Most Restrictive RBSL (µg/kg)	MW-14 2-4' bg (µg/kg)	HA-9 2-3' bg (µg/kg)	HA-11 2-3' bg (µg/kg)	HA-13 3-4' bg (µg/kg)	MDL (µg/kg)
Date Collected					4/12/2002	5/20/2002	5/21/2002	5/21/2002	
PID Reading (ppmv)					ND	ND	ND	ND	
VOCs (Method 8260)									
Date Extracted					4/12/2002	5/20/2002	5/21/2002	5/21/2002	
Date Analyzed					4/17/2002	5/29/2002	5/29/2002	5/30/2002	
Benzene	1,600	13,000	180,000	1,600	ND	ND	ND	ND	50
1,2-Dichloroethane	2,100	6,200	91,000	2,100	ND	NA	NA	NA	50
Methyl tert-butyl ether (MTBE)	5,900,000(C)	25,000,000	1,800,000	1,800,000	NA	NA	NA	NA	50
1,2-Dibromoethane	670	1,700	92	92	ND	NA	NA	NA	50
Ethylbenzene	140,000(C)	9,500,000	140,000(C)	140,000	ND	ND	ND	ND	50
Naphthalene	250,000	300,000	16,000,000	250,000	NA	NA	NA	NA	250
2-Methylnaphthalene	ID	ID	8,100,000	8,100,000	NA	NA	NA	NA	250
Toluene	250,000(C)	2,800,000	250,000(C)	250,000	ND	ND	ND	ND	50
1,2,4-Trimethylbenzene	110,000(C)	21,000,000	110,000(C)	110,000	ND	ND	ND	ND	50
1,3,5-Trimethylbenzene	94,000(C)	16,000,000	94,000(C)	94,000	ND	ND	ND	ND	100
Xylenes	150,000(C)	46,000,000	150,000(C)	150,000	ND	ND	ND	ND	150
PNAs (Method 8270)									
Date Extracted					4/17/2002	NA	NA	NA	
Date Analyzed					4/17/2002	NA	NA	NA	
Acenaphthene	190,000,000	81,000,000	41,000,000	41,000,000	ND	NA	NA	NA	330
Acenaphthylene	1,600,000	2,200,000	1,600,000	1,600,000	ND	NA	NA	NA	330
Anthracene	1,000,000,000(D)	1,400,000,000	230,000,000	230,000,000	ND	NA	NA	NA	330
Benzo(a)anthracene	NLV	NLV	20,000	20,000	ND	NA	NA	NA	330
Benzo(a)pyrene	NLV	NLV	2,000	2,000	ND	NA	NA	NA	330
Benzo(b)fluoranthene	NLV	NLV	20,000	20,000	ND	NA	NA	NA	330
Benzo(g,h,i)perylene	NLV	NLV	2,500,000	2,500,000	ND	NA	NA	NA	330
Benzo(k)fluoranthene	NLV	NLV	200,000	200,000	ND	NA	NA	NA	330
Chrysene	ID	ID	2,000,000	2,000,000	ND	NA	NA	NA	330
Dibenzo(a,h)anthracene	NLV	NLV	2,000	2,000	ND	NA	NA	NA	330
Fluoranthene	1,000,000,000(D)	740,000,000	46,000,000	46,000,000	ND	NA	NA	NA	330
Fluorene	58,000,000	130,000,000	27,000,000	27,000,000	ND	NA	NA	NA	330
Indeno(1,2,3-cd)pyrene	NLV	NLV	20,000	20,000	ND	NA	NA	NA	330
2-Methylnaphthalene	ID	ID	8,100,000	8,100,000	ND	NA	NA	NA	330
Naphthalene	250,000	300,000	16,000,000	250,000	ND	NA	NA	NA	330
Phenanthrene	1,800,000	9,300	1,600,000	9,300	ND	NA	NA	NA	330
Pyrene	1,000,000,000(D)	650,000,000	29,000,000	29,000,000	ND	NA	NA	NA	330
METALS (Method 6020)									
Date Extracted					4/17/2002	NA	NA	NA	
Date Analyzed					4/17/2002	NA	NA	NA	
Lead	NLV	NLV	400,000	400,000	7,700	NA	NA	NA	1,000

Highlighted and shaded values exceed one or more listed Cleanup Criteria.

C = Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C_{sat}) since the calculated risk-based RBSL is greater than C_{sat}. Concentrations greater than C_{sat} are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase contaminant is not present. NA = Not Applicable or not requested for analysis. NLV = Hazardous substance is not likely to leach under most soil conditions. NLV = Hazardous substance is not likely to volatilize under most conditions. ID = Inadequate data to develop RBSL. ND = Not detected at or above the MDEQ method detection limit.

**Table 4
Comparison of Maximum Soil Concentrations for
Property Boundary and Off-Site
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan**

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (mg/kg)	Applicable RBSLs (mg/kg)	Exposure Codes	Criterion Exceeded? (Yes or No)
VOCs						
Benzene	12N SIDEWALL 6'	12/21/1999	15,000	1,600	A	Yes
1,2-Dichloroethane	NA	NA	ND	2,100	A	No
Methyl tert-butyl ether (MTBE)	NA	NA	ND	1,800,000	C	No
1,2-Dibromoethane	NA	NA	ND	92	C	No
Ethylbenzene	12N SIDEWALL 6'	12/21/1999	22,000	140,000	A, C	No
Naphthalene	12N SIDEWALL 6'	12/21/1999	220,000	250,000	A	No
2-Methylnaphthalene	12N SIDEWALL 6'	12/21/1999	450,000	8,100,000	C	No
Toluene	HA-1 5-6' bg	9/14/2001	5,300	250,000	A, C	No
1,2,4-Trimethylbenzene	HA-2 5-6' bg	9/14/2001	140,000	110,000	A, C	Yes
1,3,5-Trimethylbenzene	12N SIDEWALL 6'	12/21/1999	49,000	94,000	A, C	No
Nylens	12N SIDEWALL 6'	12/21/1999	130,000	150,000	A, C	No
PAHs						
Acenaphthene	HA-2 5-6' bg	9/14/2001	6,300	41,000,000	C	No
Acenaphthylene	NA	NA	ND	1,600,000	A, C	No
Anthracene	NA	NA	ND	230,000,000	C	No
Benzo(a)anthracene	16N SIDEWALL 2-3'	12/30/1999	480	20,000	C	No
Benzo(a)pyrene	NA	NA	ND	2,000	C	No
Benzo(b)fluoranthene	NA	NA	ND	20,000	C	No
Benzo(k)fluoranthene	NA	NA	ND	2,500,000	C	No
Benzo(e)pyrene	NA	NA	ND	200,000	C	No
Chrysene	NA	NA	ND	2,000,000	C	No
Fluorene	NA	NA	ND	2,000	C	No
Indeno(1,2,3-cd)perylene	16N SIDEWALL 2-3'	12/30/1999	1,800	46,000,000	C	No
Phenanthrene	HA-2 5-6' bg	9/14/2001	6,700	27,000,000	C	No
Pyrene	NA	NA	ND	20,000	C	No
Benzo(g)perylene	HA-2 5-6' bg	9/14/2001	360,000	8,100,000	C	No
Benzo(i)perylene	HA-2 5-6' bg	9/14/2001	160,000	250,000	A	No
Benzo(a)fluoranthene	16N SIDEWALL 2-3'	12/30/1999	4,300	9,300	B	No
Benzo(a)anthracene	16N SIDEWALL 2-3'	12/30/1999	3,200	29,000,000	C	No
Benzo(b)fluoranthene	12N SIDEWALL 6'	12/21/1999	18,000	400,000	C	No

... to Indoor Air
... Soil Inhalation
... method detection limit.

Table 5
Summary of Groundwater Analysis
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

Chemical Sample	Industrial and Commercial II, III, & IV Groundwater Volatilization to Indoor Air Inhalation RBSL (µg/l)	Groundwater Contact RBSL (µg/l)	Most Restrictive RBSL (µg/l)	GP-20 (µg/l)	GP-1 11-16' bg (µg/l)	GP-10 7-12' bg (µg/l)	Trip Blank (µg/l)	Equipment Blank (µg/l)	MW-2 (µg/l)	MW-3 (µg/l)	MW-7 (µg/l)	GP-39 2.5-3' bg (µg/l)	MW-7 (µg/l)	MDL (µg/l)
VOCs (Method 8260)				1/5/2000	9/7/2001	9/7/2001	9/7/2001	9/7/2001	4/24/2002	4/24/2002	4/24/2002	12/2/2002	4/16/2003	
						9/19/2001			4/29/2002	4/29/2002	4/29/2002	12/4/2002	4/18/2003	
						9/19/2001			4/29/2002	4/29/2002	4/29/2002	12/4/2002	4/18/2003	
Benzene	36,000	11,000	11,000	ND	ND	700	NA	NA	5.2	ND	ND	ND	ND	1
Methyl tert-butyl ether (MTBE)	47,000(S)	690,000	690,000	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
1,2-Dichloroethane	59,000	19,000	19,000	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	1
1,2-Dibromoethane	15,000	25	25	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	1
Ethylbenzene	170,000(S)	170,000(S)	170,000	ND	ND	960	NA	NA	ND	ND	ND	ND	ND	1
2-Methylnaphthalene	ID	25,000(S)	25,000	NA	NA	NA	NA	NA	10	ND	ND	ND	ND	1
Naphthalene	31,000(S)	31,000(S)	31,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Toluene	530,000(S)	530,000(S)	530,000	ND	ND	130	NA	NA	2.3	ND	ND	ND	ND	1
1,2,4-Trimethylbenzene	56,000(S)	56,000(S)	56,000	ND	ND	360	NA	NA	30	ND	ND	ND	ND	1
1,3,5-Trimethylbenzene	61,000(S)	61,000(S)	61,000	ND	ND	96	NA	NA	12	ND	ND	ND	ND	1
Xylenes, Total	190,000(S)	190,000(S)	190,000	ND	ND	680	NA	NA	33	ND	ND	ND	ND	3
PNAs (Method 8310/8270)														
						9/12/2001			4/29/2002	4/29/2002	4/29/2002	12/3/2002	4/18/2003	
						9/13/2001			4/29/2002	4/29/2002	4/29/2002	12/4/2002	4/19/2003	
Acenaphthene	4,200(S)	4,200(S)	4,200	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Acenaphthylene	3,900(S)	3,900(S)	3,900	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Anthracene	43(S)	43(S)	43	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Benzo(a)anthracene	NLV	9.4(S,AA)	9.4	ND	ND	19	ND	NA	ND	ND	ND	ND	ND	5
Benzo(a)pyrene	NLV	5.0(M,AA)	5.0	ND	ND	9	ND	NA	ND	ND	ND	ND	ND	5
Benzo(b)fluoranthene	NLV	2.0(M,AA)	2.0	ND	ND	19	ND	NA	ND	ND	ND	ND	ND	5
Benzo(g,h,i)perylene	NLV	5.0(M,AA)	5.0	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Benzo(k)fluoranthene	NLV	5.0(M,AA)	5.0	ND	ND	7.6	ND	NA	ND	ND	ND	ND	ND	5
Chrysene	ID	5.0(M,AA)	5.0	ND	ND	10	ND	NA	ND	ND	ND	ND	ND	5
Dibenzo(a,h)anthracene	NLV	5.0(M,AA)	5.0	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Fluoranthene	210(S)	210(S)	210	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
Fluorene	2,000(S)	2,000(S)	2,000	ND	ND	83	ND	NA	ND	ND	ND	ND	ND	5
Indeno(1,2,3-cd)pyrene	NLV	5.0(M,AA)	5.0	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	5
2-Methylnaphthalene	ID	25,000(S)	25,000	6.8	ND	2,600	ND	NA	ND	ND	ND	ND	ND	5
Naphthalene	31,000(S)	31,000(S)	31,000	7.2	ND	1,700	ND	NA	ND	ND	ND	ND	ND	5
Phenanthrene	1,000(S)	1,000(S)	1,000	ND	ND	68	ND	NA	ND	ND	ND	ND	ND	5
Pyrene	140(S)	140(S)	140	ND	ND	32	ND	NA	ND	ND	ND	ND	ND	5
MEALS (Method 6020)														
				NA	NA	9/10/2001	NA	NA	4/26/2002	4/26/2002	4/26/2002	12/3/2002	4/23/2003	
				NA	NA	9/10/2001	NA	NA	4/26/2002	4/26/2002	4/26/2002	12/3/2002	4/23/2003	
Lead	NLV	ID	NLV	NA	NA	ND	NA	ND	ND	ND	ND	ND	10	3

Highlighted and shaded values exceed one or more listed Cleanup Criteria.

C = Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based RBSL is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase contaminant is not present. NA = Not Applicable or not requested for analysis. NLV = Hazardous substance is not likely to leach under most soil conditions. NLV = Hazardous substance is not likely to volatilize under most conditions. ID = Inadequate data to develop RBSL. ND = Not detected at or above the MDEQ method detection limit.

Table 6
 Summary of Groundwater Analysis
 Property Boundary and Off-Site
 Detroit Department of Transportation
 Coolidge Facility
 Detroit, Michigan

Chemical	Sample	Residential and Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (µg/l)	Groundwater Contact RBSL (µg/l)	Most Restrictive RBSL (µg/l)	Tank 12 Bottom (µg/l)	HA-1 6-7' bg (µg/kg)	HA-2 6-7' bg (µg/l)	MW-10 (µg/l)	MW-11 (µg/l)	MW-12 (µg/l)	MW-13 (µg/l)	MW-14 (µg/l)	MW-14 duplicate (µg/l)	MW-15 (µg/l)	HA-8 0-8' bg (µg/l)	HA-9 duplicate 0-8' bg (µg/l)	HA-10 0-4' bg (µg/l)	MW-10 (µg/l)	MW-11 (µg/l)	MW-12 (µg/l)	MW-13 (µg/l)	MW-14 (µg/l)	MDL (µg/l)
Collection Date					12/21/1999	9/14/2001	9/14/2001	4/24/2002	4/24/2002	4/24/2002	4/24/2002	4/24/2002	4/24/2002	5/20/2002	5/20/2002	5/20/2002	5/20/2002	4/16/2003	4/16/2003	4/16/2003	4/16/2003	4/16/2003	
Date Extracted						9/14/2001	9/14/2001	4/29/2002	4/29/2002	4/30/2002	4/30/2002	4/30/2002	4/26/2002	5/31/2002	5/31/2002	5/31/2002	5/31/2002	4/18/2003	4/18/2003	4/21/2003	4/21/2003	4/18/2003	
Date Analyzed						9/21/2001	9/21/2001	4/29/2002	4/29/2002	4/30/2002	4/30/2002	4/30/2002	4/26/2002	5/31/2002	5/31/2002	5/31/2002	5/31/2002	4/19/2003	4/18/2003	4/21/2003	4/21/2003	4/18/2003	
Benzene		5,600	9,400	5,600	8,400	7,900	<5	ND	ND		5,700	ND	ND	6.0	ND	ND	ND	ND	4.2	3,600	ND	ND	1
Methyl tert-butyl ether (MTBE)		47,000,000(S)	650,000	650,000	39	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
1,2-Dichloroethane		9,600	11,000	9,600	ND	NA	<5	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	1
1,2-Dibromoethane		2,400	25	25	NA	<10	<5	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	1
Ethylbenzene		170,000(S)	170,000(S)	170,000	290	2,100	140	ND	1.1	120	ND	ND	ND	56	ND	ND	ND	ND	33	280	ND	ND	1
2-Methylnaphthalene	ID	32,000	32,000	32,000	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Naphthalene		31,000(S)	31,000(S)	31,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Toluene		530,000(S)	530,000(S)	530,000	950	7,900	<5	ND	ND	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	ND	ND	1
1,4-Transstyrene		56,000(S)	160,000	56,000	11,000	16,000	1,900	ND	3.1	360	ND	ND	ND	260	16	21	ND	ND	23.0	520	ND	ND	1
1,3-Transstyrene		61,000(S)	210,000	61,000	3,800	2,700	340	ND	3.0	160	ND	ND	ND	57			ND	ND	9.6	37	ND	ND	1
Alkanes Total		190,000(S)	190,000(S)	190,000	10,000	8,000	350	ND	4.4	1,400	ND	ND	ND	110	ND	ND	ND	ND	21.0	340	ND	ND	3
Date Extracted						9/22/2001		4/29/2002	4/29/2002	4/29/2002	4/29/2002	4/29/2002	NA	NA	NA	NA	NA	4/18/2003	4/18/2003	4/18/2003	4/18/2003	4/18/2003	
Date Analyzed						9/23/2001		4/29/2002	4/30/2002	4/30/2002	4/30/2002	4/30/2002	NA	NA	NA	NA	NA	4/19/2003	4/19/2003	4/19/2003	4/19/2003	4/19/2003	
Acetophenone		4,200(S)	4,200(S)	4,200	NA	ND	860	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone		3,900(S)	3,900(S)	3,900	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone		43(S)	43(S)	43	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	21	21	21	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	ID	5(M)	5(M)	5	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone		210(S)	210(S)	210	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone		2,000(S)	2,000(S)	2,000	NA	ND	910	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	NLV	5(M)	5(M)	5	NA	ND	<25	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone	ID	32,000	32,000	32,000	NA	ND	44,000	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	24	ND	ND	ND	5
Acetophenone		31,000(S)	31,000(S)	31,000	NA	ND	19,000	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	68	27	ND	ND	5
Acetophenone		1,000(S)	1,000(S)	1,000	NA	ND	350	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Acetophenone		140(S)	140(S)	140	NA	ND	<250	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	5
Date Extracted						9/19/2001	NA	4/26/2002	4/26/2002	4/26/2002	4/26/2002	4/26/2002	NA	NA	NA	NA	NA	4/23/2003	4/23/2003	4/23/2003	4/23/2003	4/23/2003	
Date Analyzed						9/19/2001	NA	4/26/2002	4/26/2002	4/26/2002	4/26/2002	4/26/2002	NA	NA	NA	NA	NA	4/23/2003	4/23/2003	4/23/2003	4/23/2003	4/23/2003	
Acetophenone	NLV	ID	ID	NA	ND	NA	ND	4.5	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	3

Table 7
Comparison of Maximum Groundwater Concentrations
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (mg/l)	Applicable RBSLs (mg/l)	Exposure Codes	Criterion Exceeded? (Yes or No)
VOCs						
Benzene	GP-10 7-12' bg	9/7/2001	700	11,000	B	No
Methyl tert-butyl ether (MTBE)	NA	NA	ND	690,000	B	No
1,2-Dichloroethane	NA	NA	ND	19,000	B	No
1,2-Dibromoethane	NA	NA	ND	25	B	No
Ethylbenzene	GP-10 7-12' bg	9/7/2001	960	170,000	A, B	No
2-Methylnaphthalene	NA	NA	NA	25,000	B	No
Naphthalene	NA	NA	NA	31,000	A, B	No
Toluene	GP-10 7-12' bg	9/7/2001	130	530,000	A, B	No
1,2,4-Trimethylbenzene	GP-10 7-12' bg	9/7/2001	360	56,000	A, B	No
1,3,5-Trimethylbenzene	GP-10 7-12' bg	9/7/2001	96	16,000	A, B	No
Xylenes, Total	GP-10 7-12' bg	9/7/2001	680	190,000	A, B	No
SVOCs						
Acenaphthene	NA	NA	ND	4,200	A, B	No
Acenaphthylene	NA	NA	ND	3,900	A, B	No
Anthracene	NA	NA	ND	43	A, B	No
Benzo(a)anthracene	GP-10 7-12' bg	9/7/2001	19	9.4	B	Yes
Benzo(a)pyrene	GP-10 7-12' bg	9/7/2001	9	5.0	B	Yes
Benzo(b)fluoranthene	GP-10 7-12' bg	9/7/2001	19	2.0	B	Yes
Benzo(k)fluoranthene	NA	NA	ND	5.0	B	No
Benzo(e)pyrene	GP-10 7-12' bg	9/7/2001	7.6	5.0	B	Yes
Chrysene	GP-10 7-12' bg	9/7/2001	10	5.0	B	Yes
Fluorene	NA	NA	ND	5.0	B	No
Fluoranthene	NA	NA	ND	210	A, B	No
Phenanthrene	GP-10 7-12' bg	9/7/2001	83	2,000	A, B	No
Indeno(1,2,3-cd)pyrene	NA	NA	ND	5.0	B	No
2-Methylnaphthalene	GP-10 7-12' bg	9/7/2001	2,600	25,000	B	No
Naphthalene	GP-10 7-12' bg	9/7/2001	1,700	31,000	A, B	No
Fluoranthene	GP-10 7-12' bg	9/7/2001	68	1,000	A, B	No
Pyrene	GP-10 7-12' bg	9/7/2001	32	140	A, B	No
Lead						
	MW-7	4/16/2003	10	NA	B	No

Notes:
 A = Residential, Commercial II, Commercial III, and Commercial IV Groundwater Volatilization to Indoor Air Inhalation
 B = Groundwater Ingestion
 NA = Not Applicable or analysis not requested.
 ND = Not Detected or above the MDRQ method detection limit.

Table 8
Comparison of Maximum Groundwater Concentrations for
Property Boundary and Off-Site
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (mg/l)	Applicable RBSLs (mg/l)	Exposure Codes	Criterion Exceeded? (Yes or No)
VOCs						
Benzene	Tank 12 Bottom	12/21/1999	8,400	5,600	A	Yes
Methyl tert-butyl ether (MTBE)	Tank 12 Bottom	12/21/1999	39	650,000	B	No
1,2-Dichloroethane	HA-2 6-7' bg	9/14/2001	<5	9,600	A	No
1,2-Dibromoethane	HA-1 6-7' bg	9/14/2001	<10	25	B	No
Ethylbenzene	HA-1 6-7' bg	9/14/2001	2,100	170,000	A, B	No
2-Methylnaphthalene	Tank 12 Bottom	12/21/1999	1,400	32,000	B	No
Naphthalene	NA	NA	ND	31,000	A, B	No
Toluene	HA-1 6-7' bg	9/14/2001	7,900	530,000	A, B	No
1,2,4-Trimethylbenzene	HA-1 6-7' bg	9/14/2001	16,000	56,000	A	No
1,3,5-Trimethylbenzene	Tank 12 Bottom	12/21/1999	3,800	61,000	A	No
Xylenes, Total	Tank 12 Bottom	12/21/1999	10,000	190,000	A, B	No
PNAs						
Acenaphthene	HA-2 6-7' bg	9/14/2001	860	4,200	A, B	No
Acenaphthylene	HA-2 6-7' bg	9/14/2001	<250	3,900	A, B	No
Anthracene	HA-2 6-7' bg	9/14/2001	<250	43	A, B	Yes
Benzo(a)anthracene	HA-2 6-7' bg	9/14/2001	<250	5	B	Yes
Benzo(a)pyrene	HA-2 6-7' bg	9/14/2001	<25	5	B	Yes
Benzo(b)fluoranthene	HA-2 6-7' bg	9/14/2001	<25	5	B	Yes
Benzo(g,h,i)perylene	HA-2 6-7' bg	9/14/2001	<25	5	B	Yes
Benzo(k)fluoranthene	HA-2 6-7' bg	9/14/2001	<25	21	B	Yes
Chrysene	HA-2 6-7' bg	9/14/2001	<250	5	B	Yes
Dibenz(a,h)anthracene	HA-2 6-7' bg	9/14/2001	<25	5	B	Yes
Fluorene	HA-2 6-7' bg	9/14/2001	<250	210	A, B	Yes
Fluoranthene	HA-2 6-7' bg	9/14/2001	910	2,000	A, B	No
Indene(1,2,3-c)pyrene	HA-2 6-7' bg	9/14/2001	<25	5	B	Yes
1-Methylanthracene	HA-2 6-7' bg	9/14/2001	44,000	32,000	B	Yes
Phenanthrene	HA-2 6-7' bg	9/14/2001	19,000	31,000	A, B	No
Pyrene	HA-2 6-7' bg	9/14/2001	350	1,000	A, B	No
Benzo(e)pyrene	HA-2 6-7' bg	9/14/2001	<250	140	A, B	Yes
	MW-11	4/24/2002	4.5	*	A	NA

Groundwater Volatilization to Indoor Air Inhalation
 MDEQ Method Detection Limit
 * MDEQ Method Detection Limit

Table 9
Static Water Level Data
Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

Monitor Well Location (screened interval)	Top of Casing Elevation ¹ (feet)	Date Recorded	Depth to Groundwater (feet)	Depth to Free Product (feet)	Change in Groundwater Elevation ² (feet)	Groundwater Elevation (feet)
MW-2 (13-19')	100.00	4/24/2002	9.45	0.00	NA	90.55
		12/3/2002	NA	NA	NA	NA
		4/16/2003	NA	NA	NA	NA
		6/26/2003	NA	NA	NA	NA
MW-3 (13-19')	100.05	4/24/2002	1.47	0.00	NA	98.58
		12/3/2002	NA	NA	NA	NA
		4/16/2003	NA	NA	NA	NA
		6/26/2003	NA	NA	NA	NA
MW-7 (10-15')	100.06	4/24/2002	7.90	0.00	NA	92.16
		12/3/2002	4.59	0.00	3.31	95.47
		4/16/2003	3.40	0.00	1.19	96.66
		6/26/2003	8.49	0.00	-5.09	91.57
MW-10 (3-8')	102.07	4/24/2002	3.96	0.00	NA	98.11
		12/3/2002	NA	NA	NA	NA
		4/16/2003	5.54	0.00	-1.58	96.53
		6/26/2003	5.01	0.00	0.53	97.06
MW-11 (4-9')	101.87	4/24/2002	3.17	0.00	NA	98.70
		12/3/2002	4.81	0.00	-1.64	97.06
		4/16/2003	3.15	0.00	1.66	98.72
		6/26/2003	3.29	0.00	-0.14	98.58
MW-12 (4-9')	101.57	4/24/2002	3.25	0.00	NA	98.32
		12/3/2002	3.66	0.00	-0.41	97.91
		4/16/2003	3.10	0.00	0.56	98.47
		6/26/2003	3.54	0.00	-0.44	98.03
MW-13 (3-4')	100.66	4/24/2002	6.00	0.00	NA	94.66
		12/3/2002	4.39	0.00	1.61	96.27
		4/16/2003	6.30	0.00	-1.91	94.36
		6/26/2003	6.33	0.00	-0.03	94.33
MW-14 (3-8')	101.93	4/24/2002	3.20	0.00	NA	98.73
		12/3/2002	7.76	0.00	-4.56	94.17
		4/16/2003	3.40	0.00	4.36	98.53
		6/26/2003	3.61	0.00	-0.21	98.32
MW-15 (0-4')	100.03	4/24/2002	NA	NA	NA	NA
		12/3/2002	2.42	0.00	NA	97.61
		4/16/2003	1.91	1.82	0.51	98.12
		6/26/2003	1.99	1.76	-0.08	98.04

¹ Elevation measured to local datum of 100 feet. ² Change in groundwater elevation since previous recorded

DATE ENTERED INTO DATABASE

7-17-03

ENVIRONMENTAL QUALITY - REMEDIATION & REDEVELOPMENT DIVISION
9-7926, Phone 517-373-9837, Fax 517-373-2637, E-mail DEQ-STD-TANKS@michigan.gov

STAFF INITIALS:

PB

**LEAKING UNDERGROUND STORAGE TANK
SUPPLEMENTAL REPORT COVER SHEET**

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Quarterly Free Product Report

FACILITY NAME: Detroit Department of Transportation

FACILITY ID NUMBER: 00013464

STREET ADDRESS: 14044 Schaefer Hwy

CITY: Detroit

STATE: MI

ZIP CODE: 48227

COUNTY: Wayne

DATE(S) RELEASE(S) DISCOVERED: 1. 12/20/99, 2. 12/20/99,
3. 12/30/99, and 4. 1/25/00

CONFIRMED RELEASE NUMBER(S): 1. C-1332-99,
2. C-1333-99, 3. C-1388-99, and 4. C-88-00

O/O NAME: City of Detroit

O/O STREET ADDRESS: 5300 Chrysler Service Drive

STATE: MI

ZIP CODE: 48211

CONTACT PERSON: Ken Ong

PHONE NUMBER: 313.833.3000

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel

2. Free product present:

a. Currently? YES NO

If YES, total gallons recovered since last report: 1.19

b. Previously? YES NO

If YES, total gallons recovered to date: 1.19

3. Have vapors been identified in any confined spaces (basement, sewers)? YES NO

4. Estimated depth to groundwater: 4 feet

Estimated groundwater flow direction: radial

5. Estimated distance and direction from point of release to nearest:

a. Private well: > 1/2 Mile

b. Municipal well: > 1/2 Mile

c. Surface water/wetland: Detroit River, > 1Mile South

6. Since last report: a. cubic yards of soil remediated: 1,520

b. gallons of groundwater remediated: 0

7. Totals to date: a. cubic yards of soil remediated: 6,260

b. gallons of groundwater remediated: 2,800

8. Michigan RBCA Site Classification (1-4): 1

9. Has contamination migrated off-site above Tier 1 Residential RBSLs YES NO

If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 YES NO

10. MTBE

Has MTBE been detected in any groundwater sample?

YES NO

Maximum MTBE concentration found in groundwater

39 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD)

on July 14, 2003 (Date submitted REQUIRED)

Michael K. Jordan

7/14/03
Date

CP Original Signature - (REQUIRED)

Carolyn L. Paplin

PRINT QC PROJECT MANAGER'S NAME

Michael K. Jordan
PRINT CP's Name

The Traverse Group, Inc.
NAME OF CONSULTING FIRM

CP ID: 895

QC ID: Z00179

ADDRESS 400 Monroe, Ste. 410, Detroit, MI 48226

PHONE: (313) 237-7777 FAX: (313) 237-2222

Rec'd 7-17-03



FREE PRODUCT RECOVERY STATUS REPORT

Authorized by Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451).

<p>INSTRUCTIONS: Use the checklist below to ensure that all required information is provided in the Quarterly Free Product Recovery Status Report and submit WITH THE SUPPLEMENTAL REPORT COVER SHEET (EQP3849) to the appropriate Remediation & Redevelopment Division (RRD) district office. See form eqp4410 for a complete list of RRD district offices. Include this checklist as a table of contents. Each page of the report should be consecutively numbered. The location column should be completed with the appropriate page number for each item. Refer to Storage Tank Division Operational Memorandum No. 7 for further instructions. The reporting schedule may be altered at the discretion of the DEQ project manager based on site conditions.</p>	<p>FACILITY ID NUMBER: 00013464</p> <hr/> <p>SITE NAME: Detroit Department of Transportation</p> <p>COUNTY: Wayne</p>
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Section	Table of Contents	Page
1.0	<u>ACTIVITIES COMPLETED</u> Section 21307(2) and (3)(b),(c)	
	A. Describe response activities completed to address free product.	1
2.0	<u>EXPOSURE PATHWAY EVALUATION</u> Section 21307(2)(a),(e) and (3)(c)	
	A. Identify and describe complete exposure pathways related to the free product.	2
	B. Provide a scaled site map, which shows the extent of free product including the utility corridors, buildings with or without basements, private wells, and sensitive habitat/surface water.	1, Figure 1
3.0	<u>DATA TREND ANALYSIS</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Provide a data summary table for all wells that contain free product. The table should include monitoring point location, date sampled, depth to water, free product thickness, and quantity of free product removed.	2, Table 1
	B. Provide graphs of static water elevations of a well near the free product plume versus free product apparent thickness compared over time. These graphs should be provided for all monitoring wells that have shown free product.	2, Graph 1
	C. Provide graphs of static water elevations versus groundwater concentration (e.g., Benzene, MTBE, and/or total BTEX) in select downgradient monitoring wells compared over time.	NA
4.0	<u>FEASIBILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM</u> Section 21307(2)(c)(i),(ii) and (3)(c), and 21308a(1)(b)(xviii)	
	A. Provide initial and any subsequent bail-down test recovery data, analysis of which will determine the frequency of recovery. Refer to the references in Storage Tank Division Operational Memorandum No. 7 for sample calculations.	2, Graph 2
	B. Attach a schematic drawing of the free product recovery system.	2
5.0	<u>PERMITTING AND WASTE DISPOSAL TRACKING</u>	
	A. Provide copies of manifests or trip logs of liquid industrial waste or recycling per Section 21307(2)(c)(iii) and (3)(c), and 21308a(1)(b)(xvii)(H).	2
	B. Provide the air quality sampling results and calculations to meet Rule 290 of the Air Pollution Control Rules promulgated under Part 55, Air Pollution Control, of Act 451.	2
6.0	<u>OPERATION AND MAINTENANCE RECOVERY DATA</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Describe any free product system design modifications, since last submittal.	2
	B. Provide the action levels that may trigger a change in remediation strategy.	2
7.0	<u>PROPOSED FUTURE ACTIONS</u> Section 21307(2)(e) and Section 21309a(2)(e)	
	A. Provide a schedule for free product evaluation and groundwater sampling.	3
	B. Provide a schedule outlining the next operation and maintenance activities.	3
	C. Provide the date of the next report.	3

**QUARTERLY FREE PRODUCT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY NO. 00013464
14044 SCHAEFER HWY., DETROIT, MICHIGAN**

FREE PRODUCT DISCOVERY, IMMEDIATE RESPONSE, AND REPORTING

Free Product Discovery

During a groundwater sampling event conducted on April 16, 2003, free product was discovered in monitor well MW-15 (refer to the attached Site Sketch for location) at the site.

Immediate Response Activities

Approximately 1.08 inches of free product thickness was measured and 0.05 gallons of free product were removed from MW-15 (refer to Table 1 for free product elevation data and removal quantities). The free product was removed from MW-15 by hand bailing using a disposable bailer and containerized in a 55-gallon steel DOT approved drum that was properly labeled and stored on-site. Existing monitor wells on- and off-site were gauged during the sampling event and free product was not present in any other monitor wells. In addition, the site was surveyed for possible fire, explosion, and vapor hazards. The results of the survey indicated that no fire, explosion, or vapor hazards were present.

Reporting

The Michigan Department of Environmental Quality (MDEQ) was notified within 24-hours by fax transmittal using the MDEQ Free Product Fax Transmittal form.

Following the May 15, 2003, site visit, monthly site visits have been continued to date. A monthly site visit was conducted on June 26, 2003 to gauge apparent free product thickness and perform free product recovery.

FREE PRODUCT REMOVAL ACTIVITIES

After the discovery of free product in MW-15, the site was monitored for free product on a weekly basis for one month. Since the quantity of free product removed was consistent, the frequency of the free product site monitoring visits was revised to monthly.

Field data obtained from the first monthly (June 26, 2003) free product site monitoring visit indicated a slight increase in free product thickness but not a significant increase. Based on this information, the frequency of free product monitoring site visits will continue monthly and free product recovery will be performed by hand-bailing techniques.

The next monthly free product site monitoring visit is scheduled for July 25, 2003. During the site visit, the existing nearby monitor wells on- and off-site will be screened. If it is determined that the quantity or thickness of free product has significantly increased

or free product is discovered in other monitor wells, the current free product recovery method will be revised to an active recovery system.

EXPOSURE PATHWAY EVALUATION

Exposure pathways applicable to the site are consistent with the Final Assessment Report (FAR).

FREE PRODUCT DELINEATION

An Amended FAR is in the process of being completed for submittal to the MDEQ by the end of July 2003. Free product will be delineated during the installation of the proposed remediation system (as summarized in the Corrective Action Plan of the Amended FAR). A summary of the free product delineation activities and results will be presented in the next Quarterly Free Product Report (October 15, 2003).

DATA TREND ANALYSIS

Free product elevation data, apparent free product thickness, and quantity of free product removed from April 16, 2003 through June 26, 2003 is presented in Table 1. Graph 1 depicts the static water level elevations of MW-15 versus the apparent free product thickness over time. Graph 2 depicts the results of a free product bail-down test performed at MW-15

FEASABILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM

On April 17, 2003, a bail-down test was performed at MW-15. The bail-down test recovery data for MW-15 is provided on Graph 2. Based on the free product thickness and quantity encountered since June 26, 2003, monthly free product monitoring and recovery by hand-bailing method is appropriate. However, if the results of the free product delineation activities or monthly free product site monitoring indicate an unstable or increasing free product plume, then the current recovery system will be immediately revised to stabilize and reduce the plume.

PERMITTING AND WASTE DISPOSAL TRACKING

Free product recovered from MW-15 to date (a total of 1.19 gallons) was placed in a properly labeled, DOT approved, 55-gallon drum, and stored on-site.

Air quality sampling and calculations are not deemed necessary at this time since the free product is recovered by hand-bailing using a disposable bailer.

PROPOSED FUTURE ACTIONS

Monthly Free Product Monitoring

Monthly free product monitoring and recovery will continue.

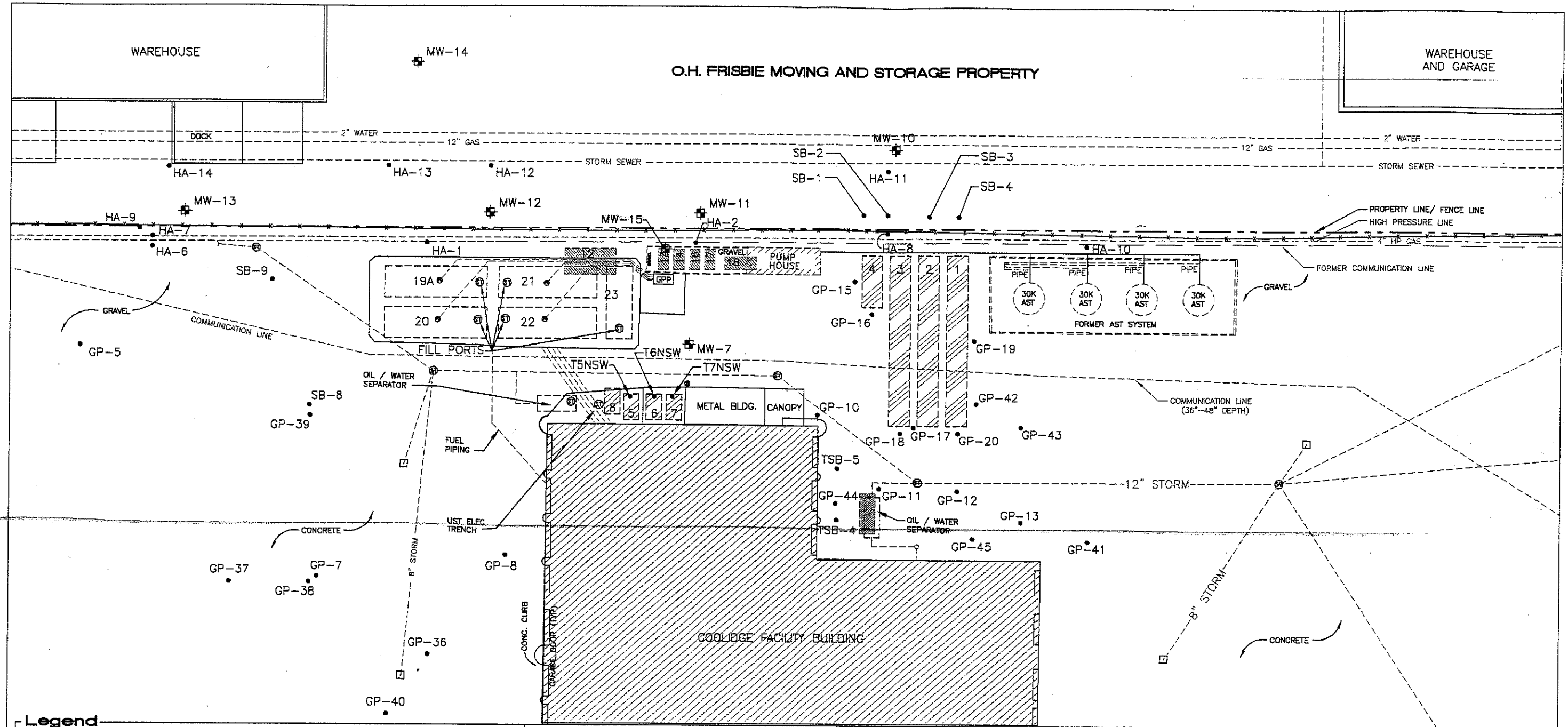
Free Product Delineation Activities

The free product plume will be delineated during the installation of the remediation system. The results will be included in the next Quarterly Free Product Report.

Next Quarterly Free Product Report

The next Quarterly Free Product Report will be submitted to the MDEQ on or before October 15, 2003.

O.H. FRISBIE MOVING AND STORAGE PROPERTY



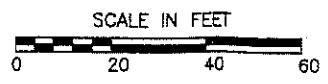
Legend

- UST REMOVED
- UST CLOSED-IN-PLACE
- SOIL BORING
- ⊕ MONITOR WELL
- CATCH BASIN
- ⊙ STORM MH
- ⊙ FILL PORT
- ⊙ GAS DISPENSER
- - - UNDERGROUND UTILITY
- x-x- FENCE

TANK # AND DESCRIPTION		TANK # AND DESCRIPTION		TANK # AND DESCRIPTION	
1	FORMER AQUA DIESEL - 50,000 GAL-CIP	12	FORMER GASOLINE - 12,000 GAL-REMOVED	20	DIESEL 25,000 GAL - IN OPERATION
2	FORMER AQUA DIESEL - 50,000 GAL-CIP	13	FORMER AQUA SYSTEM - 500 GAL-REMOVED	21	DIESEL 25,000 GAL - IN OPERATION
3	FORMER AQUA DIESEL - 50,000 GAL-CIP	14	FORMER AQUA SYSTEM - 500 GAL-REMOVED	22	DIESEL 25,000 GAL - IN OPERATION
4	FORMER AQUA GASOLINE - 12,000 GAL-CIP	16	FORMER AQUA SYSTEM - 500 GAL-REMOVED	23	GASOLINE 10,000 GAL - IN OPERATION
5	FORMER ENGINE OIL - 1,000 GAL-CIP	17	FORMER AQUA SYSTEM - 500 GAL-REMOVED		
6	FORMER ENGINE OIL - 1,000 GAL-CIP	18	FORMER AQUA SYSTEM - 1,000 GAL-REMOVED		
7	FORMER CONVERTER OIL - 1,000 GAL-CIP	19	FORMER GASOLINE - 12,000 GAL-REMOVED		
8	FORMER DEXTRON - 1,000 GAL-CIP	19A	DIESEL 25,000 GAL - IN OPERATION		



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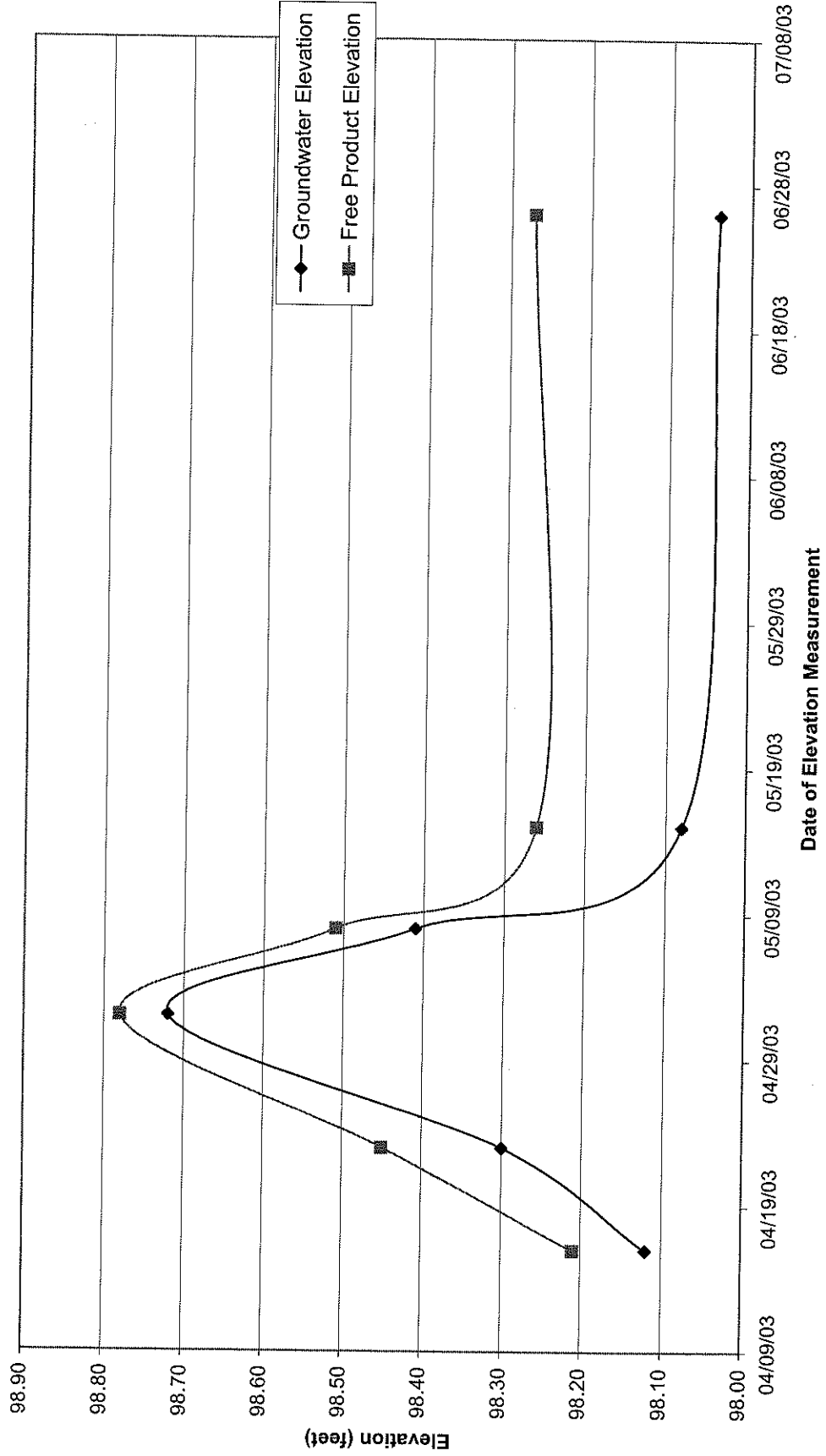


SITE SKETCH
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
DETROIT, MICHIGAN

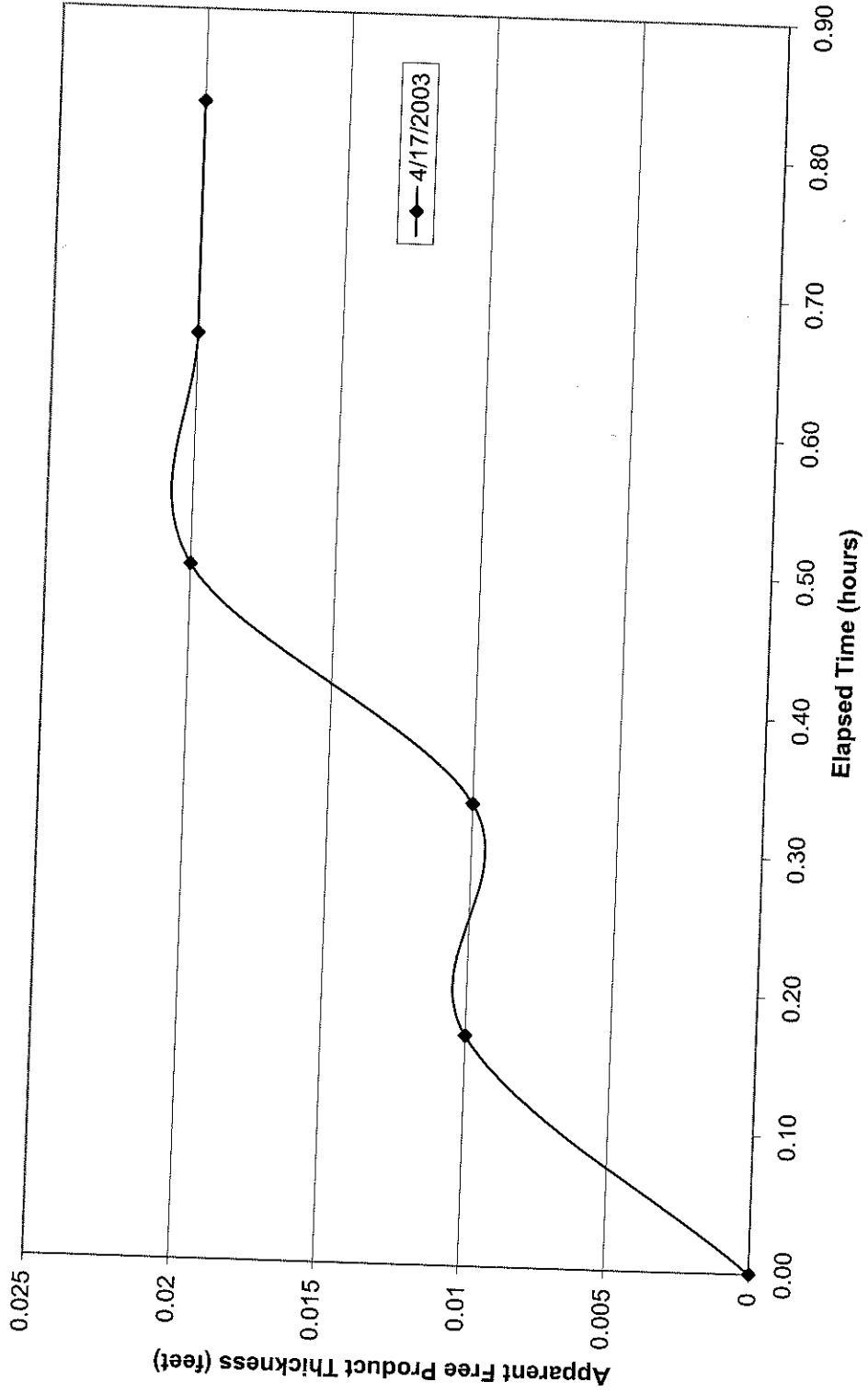
Table 1
Summary of Elevation Data
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan

Location	Date Measured	Top of Casing Elevation (feet)	Groundwater Elevation (feet)	Product Elevation (feet)	Apparent Free Product Thickness (inches)	Quantity of Free Product Removed (gallons)
MW-15	04/16/03	100.03	98.12	98.21	1.08	0.05
	04/23/03		98.30	98.45	1.80	0.06
	05/02/03		98.72	98.78	0.72	0.06
	05/08/03		98.41	98.51	1.20	0.03
	05/15/03		98.08	98.26	2.16	0.09
	06/26/03		98.04	98.27	2.76	0.90
Total Free Product Removed to Date:						1.19

Graph 1
Apparent Free Product Thickness MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan



Graph 2
Free Product Baildown Test Results MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan

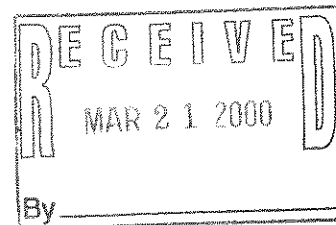


The Traverse Group

**LEAKING UNDERGROUND STORAGE TANK
INITIAL ASSESSMENT REPORT**

**DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
14044 SCHAEFER HIGHWAY
DETROIT, MI 48227
FACILITY ID # 0-013464**

March 20, 2000



**The Traverse Group
3772 Plaza Drive
Ann Arbor, Michigan 48108
(734) 747-9301**





LEAKING UNDERGROUND STORAGE TANK INITIAL ASSESSMENT REPORT

INSTRUCTIONS: COMPLETION OF THIS REPORT WITH ALL APPLICABLE INFORMATION IS MANDATORY. Complete this form with all applicable information. The Certified Underground Storage Tank Professional (CP) MUST sign below. Failure to submit a report within the stated time period may result in Administrative Penalties as provided for in Part 213, Section 21313a of Act 451, P.A. 1994 as amended.

FACILITY NAME: Department of Transportation FACILITY ID NUMBER: 0-013464

ADDRESS: 14044 Schaefer Highway

CITY: Detroit ZIP: 48227 COUNTY: Wayne

DATE(S) RELEASE DISCOVERED: 1) 12/20/99 2) 12/20/99 3) 12/30/99 4) 1/25/00 CONFIRMED RELEASE NUMBER(S): 1) C-13329-99 2) C-1333-99 3) C-1388-99 4) C-88-00

O/O NAME: City of Detroit

O/O ADDRESS: 5300 Chrysler Drive STATE: MI ZIP: 48211

CONTACT PERSON: Thomas Catron PHONE NUMBER: (313) 833-5685

ANSWER ALL QUESTIONS (DO NOT LEAVE BLANKS):

1. a. Has the UST been emptied? [x] Yes [] No (If no, explain why):

b. Has the UST system been properly closed? [x] Yes [] No (If no, explain why):

2. Free product present: a. Currently? [] YES [x] NO If YES, total gallons recovered since last report: None

b. Previously? [] YES [x] NO If YES, total gallons recovered to date: None

3. Have vapors been identified in any confined spaces (basement, sewers, etc.)? [] YES [x] NO

4. State the number of homes where drinking water is or was affected as a result of a release from this facility: 0

5. Estimated distance and direction from point of release to nearest: a. Private well: > 1/2 Mile b. Municipal well: > 1/2 Mile c. Surface water/wetland: > 1 Mile South of the site is the Detroit River.

6. Totals to date: a. cubic yards of soil remediated: Approx. 1,020 b. gallons of groundwater remediated: None

7. Michigan RBCA Site Classification (1-4): 3

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate and complete. I certify that it was submitted to the Storage Tank Division (STD) on

3/20/00 date submitted (REQUIRED)

[Signature] CP Original Signature - (REQUIRED) Date

Carolyn L. Paplin PRINT QC Project Manager's Name

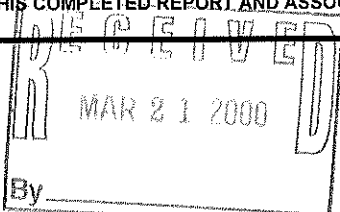
Jeffrey S. Brown PRINT CP's Name

The Traverse Group CONSULTANT

3772 Plaza Drive, Ann Arbor, Michigan 48108 ADDRESS

(734) 747-9301 (734) 747-9229 PHONE NO. FAX NO.

PLEASE RETURN THIS COMPLETED REPORT AND ASSOCIATED ATTACHMENTS TO THE APPROPRIATE STD DISTRICT OFFICE, LISTED ON THE BACK OF THIS PAGE.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - STORAGE TANK DIVISION
 INITIAL ASSESSMENT REPORT (Continued)

STORAGE TANK DIVISION OFFICES AND LOCATIONS

Determine in which county/city the UST is located. Return all completed forms and associated reports to the STD office listed next to that county/city in the following table. Addresses for the STD offices are listed below.

COUNTY	STD OFFICE	COUNTY	STD OFFICE	COUNTY	STD OFFICE	COUNTY	STD OFFICE
Alcona	Gaylord	Dickinson	Marquette	Lake	Cadillac	Oceana	Grand Rapids
Alger	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Gaylord
Allegan	Plainwell	Emmet	Gaylord	Leelanau	Cadillac	Ontonagon	Marquette
Alpena	Gaylord	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Cadillac
Antrim	Gaylord	Gladwin	Gaylord	Livingston	Shiawassee	Oscoda	Gaylord
Arenac	Gaylord	Gogebic	Marquette	Luce	Marquette	Otsego	Gaylord
Baraga	Marquette	Grand Traverse	Cadillac	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Gratiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Gaylord
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Cadillac	Roscommon	Gaylord
Benzie	Cadillac	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Cadillac	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Gaylord	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Gaylord	Iron	Marquette	Missaukee	Cadillac	St Joseph	Plainwell
Cheboygan	Gaylord	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Gaylord	Kalamazoo	Plainwell	Montmorency	Gaylord	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Cadillac	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Gaylord	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Cadillac
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		
CITY	STD OFFICE	CITY	STD OFFICE	CITY	STD OFFICE		
Detroit	Detroit	Highland Park	Detroit	Hamtramck	Detroit		

<u>CADILLAC OFFICE</u> 120 W CHAPIN ST CADILLAC MI 49601-2158 616-775-3960 (PHONE) 616-775-1511 (FAX)	<u>DETROIT OFFICE</u> 300 RIVERPLACE, SUITE 3600 DETROIT MI 48207 313-392-6480 (PHONE) 313-392-6488 (FAX)	<u>PLAINWELL OFFICE</u> 1342 SR-89 WEST, SUITE B PLAINWELL MI 49080-1915 616-692-2120 (PHONE) 616-692-3050 (FAX)
<u>GAYLORD OFFICE</u> 1732 W M-32, PO BOX 667 GAYLORD MI 49735-0667 517-731-4920 (PHONE) 517-731-6181 (FAX)	<u>JACKSON OFFICE</u> 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201-1556 517-780-7690 (PHONE) 517-780-7855 (FAX)	<u>SAGINAW-BAY OFFICE</u> 503 N EUCLID AVE SUITE 1 BAY CITY MI 48706-2965 517-686-8025 (PHONE) 517-684-9799 (FAX)
<u>GRAND RAPIDS OFFICE</u> 350 OTTAWA ST NW 6TH FLOOR GRAND RAPIDS MI 49503-2341 616-456-5071 (PHONE) 616-456-1239 (FAX)	<u>MARQUETTE OFFICE</u> 1990 US 41 SOUTH MARQUETTE MI 49855-9198 906-228-6561 (PHONE) 906-228-5245 (FAX)	<u>SHIAWASSEE OFFICE</u> 10650 BENNETT DR MORRICE MI 48857-9792 517-625-5515 (PHONE) 517-625-5000 (FAX)
<u>SE MICHIGAN OFFICE</u> 38980 SEVEN MILE RD LIVONIA MI 48152-1006 734-953-8905 (PHONE) 734-432-1295 (FAX)	<u>HEADQUARTERS</u> 333 S CAPITOL AVE PO BOX 30157 LANSING MI 48909-7657 517-373-8168 (PHONE) 517-335-2245 (FAX)	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - STORAGE TANK DIVISION
INITIAL ASSESSMENT REPORT (Continued)

Instructions - Utilize the following checklist to ensure that all required information is provided in the Initial Assessment Report (IAR). Include this checklist as the table of contents. The order in which the information is provided is at your discretion. Each page of the report (including the cover sheet, table of contents, appendices, figures, etc.) should be consecutively numbered. The location column should be completed with the appropriate page number for each item. You may reference previously submitted materials by specifying the location within that document. Maps, tables, figures, etc. should be combined as appropriate.

All information required by Part 213 to be included in the IAR **must** be provided, and all sections of the report must be completed. If any items are not applicable to the site, provide a justification regarding the absence of this information in the appropriate section of the report.

Section	Table of Contents	Page
1.0	<u>INITIAL RESPONSE TO RELEASES</u>	
A.	Provide the date and time the release(s) was/were discovered and reported.	10
B.	Indicate what portion of the underground storage tank (UST) system is, or is believed to be, the source of the release.	10
C.	Describe how the release was discovered.	11
D.	Describe any tank tightness testing performed in response to this release and provide the following:	11
	1. Date of the testing	
	2. Method of testing	
	3. Results of the testing	
E.	List all former and existing USTs at this facility including the following information for each of these tanks:	11
	1. Tank ID Number (as registered)	
	2. Contents (past/present, if gasoline specify grade and whether leaded or unleaded)	
	3. Size of the UST	
	4. Whether the tank was identified as a leaking underground storage tank (LUST)	
	5. Whether the tank has been emptied and/or removed. If a LUST, provide an explanation if not emptied or removed	
F.	Describe the initial response actions which were performed at this site, as specified in Sections 21307(2)(a) through (c), and (3)(a) and (b).	12
2.0	<u>REPORTING AND RESPONSE FOLLOWING THE DISCOVERY OF FREE PRODUCT</u>	
	If free product has not been discovered, proceed to Section 3.0.	
A.	Describe initial response actions performed at this site to address the presence of free product as specified in Sections 21307(2)(c) and (f), and (3)(b) and (c), 21308a(1)(b)(xviii). Refer to the STD Operational Memorandum No. 7, <i>Identification, Reporting, and Recovery of Free Product at LUST Sites</i> .	12
B.	Attach the STD Free Product Recovery Status Report (EQP 3850).	12
C.	Include a schedule for subsequent Free Product Report submittals.	12

Section	Table of Contents	Page
3.0	<u>SITE CHARACTERIZATION INFORMATION</u>	
3.1	SCALED SITE MAPS	
A.	Provide a scaled area map (or maps) which includes the following:	
1.	Site boundaries in relation to the surrounding area and the nearest major roads	12
2.	Location and depth of nearby underground sewers and utility lines	Figure 2
3.	Location of nearby surface waters or wetlands	Figure 1
4.	Location and screened depth of all off-site wells (municipal, residential, production, irrigation, etc.) within two years groundwater travel time of the property line, which may be dependent on the pumping rates of the identified well(s)	NA
5.	Location of all nearby delineated well-head protection areas	NA
B.	Provide a scaled site map (or maps) which includes the following:	
1.	Location of fill ports, piping, dispensers, and other pertinent system components for all UST systems currently or formerly at the facility (<i>prior to excavation if tanks have been removed</i>)	Figure 2
2.	Location of the release and the component of the LUST system from which the release occurred	13
3.	Location of adjacent buildings, roadways, paved areas, or other structures	Figure 2
4.	Location of all on-site wells and screened intervals	Figure 2
5.	Location of soil, groundwater, surface water, sediment or air samples, as applicable	Fig. 3,4,5
6.	Excavation dimensions and sample locations if applicable	Fig. 3,4,5
3.2	SCALED CROSS-SECTIONAL DIAGRAMS	13
A.	Provide scaled cross-sectional diagrams of buried utility corridors, including the pipe diameter, the type of backfill, and the trench depth.	NA
B.	Provide scaled cross-sectional diagrams depicting the soil lithology and the contaminant distribution, including sampling intervals and boring depths.	NA
C.	Provide scaled cross-sectional diagrams depicting the site hydrogeology, including the groundwater potentiometric surface, the monitoring well screened intervals, and sampling intervals.	NA
3.3	SOIL CONDITIONS AND CHARACTERISTICS	
A.	Describe the soils encountered in the vadose zone.	14
B.	Describe any soil contamination which has been detected.	14
C.	Describe any soil remediation or disposal activities performed to date, including the total volume of soil remediated or disposed. Indicate the disposal location, and provide proof of disposal (e.g., invoices, not load tickets).	17

Section	Table of Contents	Page
D.	Provide a site diagram which identifies the estimated horizontal and vertical extent of on-site and off-site soil contamination. Include the maximum concentrations and sample depths.	17
E.	Provide an estimate of the volume of impacted soil remaining in the vadose zone.	17
F.	Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, to complete the delineation of the extent of the <u>off-site</u> impact of the release to soil. Include the names and addresses of potentially affected off-site property owners.	18
G.	Provide the schedule for completing the delineation of the extent of the <u>off-site</u> impact of the release to soil.	18
H.	Provide a table with field screening and laboratory data showing the results of all soil sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14 <i>Analytical Parameters and Methods, Sample Handling, and Preservation for Petroleum Releases</i> .	Tables 1, 2a & 2b
	<ol style="list-style-type: none"> 1. Sample ID 2. Sample depth 3. Date of collection 4. Dates of extraction and analysis 5. Method Detection Limits 6. Analytical method or field screening instrument 	
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
I.	Provide a table which compares the maximum remaining soil contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4 <i>Tier I Lookup Tables for Risk-Based Corrective Action at Leaking Underground Storage Tank Sites</i> . If residential leaching to groundwater RBSLs are not utilized for comparison, provide an explanation.	19
J.	Provide soil boring logs.	19
K.	Identify any known soil contamination not related to the release and the source, if known.	NA
3.4	GROUNDWATER CONDITIONS AND CHARACTERISTICS	
A.	Describe the site hydrogeology, and include the following:	
	<ol style="list-style-type: none"> 1. Depth to groundwater and method of determination 	20
	<ol style="list-style-type: none"> 2. Whether the groundwater is potable and/or not in an aquifer. Provide the basis for this determination. Refer to STD Operational Memorandum No.11 <i>Criteria to Eliminate the Potable Groundwater Pathway</i>. 	20

Section	Table of Contents	Page
	3. Whether the groundwater is currently used as a source of drinking water, either residential or municipal	20
	4. Whether groundwater is being used for a purpose other than drinking water	20
	5. Whether more than one groundwater unit is present beneath the site	20
	6. Depth to bottom of water-bearing layer	NA
	7. Predominant soil type in water-bearing stratum (e.g., sand, silt)	20
	8. Effective porosity of water-bearing stratum (in $\text{cm}^3_{\text{void}}/\text{cm}^3_{\text{matrix}}$), and describe how it was determined	NA
	9. Hydraulic conductivity, and describe how it was determined	NA
	10. Groundwater flow rate and direction	NA
	11. Lateral component of the hydraulic gradient	NA
	12. Hydrogeologic conditions that could influence flow direction	NA
	13. Magnitude and direction of the vertical component of the hydraulic gradient	NA
B.	Attach copies of the following:	
	1. Boring logs	Attach. A
	2. Well construction diagrams	NA
	3. Potentiometric surface map	NA
	4. Elevation data (USGS datum preferred), including top-of-casing, and grade elevations, and depth to groundwater	NA
C.	Provide scaled maps and cross-sectional diagrams, showing the screened and/or sampling interval, which depict the extent of impact and the maximum concentrations.	Fig. 4
D.	Indicate whether more than one groundwater unit has been impacted.	NA
E.	Describe any groundwater remediation activities performed to date, including the total volume of groundwater remediated and the disposition of this groundwater.	NA
F.	Provide an indication of whether the plume currently extends off-site.	21
G.	Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, for the purpose of completing the delineation of the extent of the release to groundwater, and provide the names and addresses of off-site property owners.	21
H.	Provide the schedule for completing the delineation of the extent of the off-site impact of the release to groundwater.	21
I.	Provide a table with field screening and laboratory data showing the results of all groundwater sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14. The table should include the following:	
	1. Sample ID	
	2. Sample depth and/or screened interval	
	3. Date of collection	
	4. Dates of extraction and analysis	
	5. Method Detection Limits	Table 3

Section	Table of Contents	Page
	6. Analytical method or field screening instrument	
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
	J. Provide a table which compares the maximum remaining groundwater contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4. If residential health-based/aesthetic drinking water criteria are not utilized for comparison, provide an explanation.	Table 4
	K. Identify any known groundwater contamination not related to the release and the source, if known.	NA
3.5	CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA	
	A. Describe the evaluations conducted to determine if other environmental media have been impacted.	NA
	B. Describe the extent and distribution of any contamination present in any environmental media other than soil or groundwater.	NA
	C. Describe any actions taken or planned in response to contamination in other environmental media.	NA
	D. Describe steps that have been taken, or will be taken, to secure access to <u>off-site</u> properties, including easements and right-of-ways, to complete the delineation of the extent of the <u>off-site</u> impact of the release to the other specified environmental media. Provide names and addresses of potentially affected off-site property owners.	NA
	E. Provide a schedule for completing the delineation of the extent of the <u>off-site</u> impact of the release to the other specified environmental media.	NA
	F. Provide a table with the field screening and laboratory data showing the results of all sampling performed to date in the other specified environmental media.	NA
	<i>(NOTE: The STD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)</i>	
	G. Identify any known contamination in the other specified media not related to the release, and the source if known.	NA
4.0	<u>SITE CLASSIFICATION</u>	
	A. Indicate the current Site Classification Level, in accordance with STD Operational Memorandum No. 5, <i>Leaking Underground Storage Tank (LUST) Site Classification System</i> .	22

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B. Provide a justification for this classification. Identify the current conditions that are the basis of the classification, and dates that the prescribed initial response actions were implemented.	<u>22</u>
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5.0 RESULTS OF THE RBCA EVALUATION

5.1 EXPOSURE PATHWAY CHARACTERIZATION

A. Identify and describe the following (Figure 2, <u>Exposure Scenario Evaluation Flowchart</u> , provided in the <i>ASTM RBCA E 1739-95</i> , may be utilized):	
1. Potential source(s)	<u>22</u>
2. Potential transport mechanism(s)	<u>22</u>
3. Potential exposure routes(s)	<u>22</u>
4. Potential receptor(s)	<u>22</u>
B. List each possible exposure pathway(s) for each land use, and sensitive habitat (if applicable) for the site. Provide an explanation for eliminating any pathways.	<u>23</u>

NOTE: A complete pathway must include three necessary elements:

- 1) a source (e.g., contamination);*
- 2) a mechanism by which the contamination can become available to result in exposures at the source or via migration to other locations (e.g., free product and contaminated groundwater movement along a buried utility corridor); and*
- 3) an individual who may come into contact, ingest, or inhale the contamination at the point of exposure (e.g., a utility maintenance worker digging to repair the line).*

Examples of a complete pathway include:

- 1) inhalation of impacted soils by an on-site construction worker*
- 2) impacted soils leaching into potable ground water and being used by a nearby resident for drinking and bathing*
- 3) inhalation of vapors resulting from the migration of free product by a neighboring industrial worker*
- 4) impacted groundwater discharging to wetlands.*

5.2 OPTIONAL TIER II EVALUATION

A. Indicate whether a site-specific Tier II or evaluation has been conducted for this site.	<u>NA</u>
B. If applicable, identify and justify where alternate assumptions or site-specific information were used in place of the default assumptions as defined in the STD Operational Memorandum No. 4.	<u>NA</u>
C. Provide the calculations and reference citations supporting the development of the relevant Tier II SSTLs.	<u>NA</u>

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- D. Provide a table which compares the maximum remaining contaminant concentrations for each required parameter for all media to the appropriate RBSLs (as provided in the STD Operational Memorandum No. 4), and the calculated SSTLs. Identify all applicable land use scenario(s), and indicate whether or not there is an exceedance of the RBSLs or the SSTLs.

NA

5.3 PROPOSED FOLLOW-UP ACTIVITIES

- A. Based on the results of the Tier I or optional Tier II evaluation, indicate the follow-up activities proposed for the site, (e.g., site closure; interim corrective action with subsequent reevaluation; final corrective action to achieve Tier I RBSLs or Tier II SSTLs; or perform further site-specific Tier II or Tier III evaluation to establish alternative SSTLs that meet the target risk goals).

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- B. Provide justification for the option chosen.

24

- C. Provide a Work Plan and implementation schedule that describes the proposed site characterization activities to be performed to determine the horizontal and vertical extent of contamination. Include a scaled site map depicting proposed sampling locations.

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1.0 INITIAL RESPONSE TO RELEASES

A. Provide the date and time the release(s) was/were discovered and reported.

Confirmed Release Number	Date & Time Discovered	Date & Time Reported	Substance Released	Location of Release (Figure 2)
C-1332-99	12/20/99 9:00 am	12/20/99 9:40 am	Engine Oil & Gasoline	Piping associated with Tank No. 9, 10, & 19
C-1333-99	12/20/99 12:40 pm	12/20/99 2:34 pm	Gasoline	Piping associated with Tank No. 12
C-1388-99	12/30/99 12:00 pm	12/30/99 2:53 pm	Residual Oils & Diesel	Area of closed-in-place Tank No. 5, 6, 7, & 8 and Tank No. 14, 16, & 18.
C-88-00	1/25/00 2:09 pm	1/26/00 10:08 am	Diesel	Area of closed-in-place Tank No. 1, 2, & 3

B. Indicate what portion of the underground storage tank (UST) system is, or is believed to be, the source of the release.

Confirmed Release No. C-1332-99 and C-1333-99:

During UST removal activities, the source of the engine oil & gasoline releases appeared to be from the associated product piping of Tank No. 9, 10, 12, and 19.

Confirmed Release No. C-1388-99:

During the removal of Tank No. 13, 14, 16, and 18, corrosion holes were observed on the bottom of the tanks. The source of the diesel release is believed to be the tanks.

During Geoprobe® drilling, elevated photoionization detection (PID) readings were detected from soil samples collected in the immediate vicinity of closed-in-place Tank No. 5, 6, 7, and 8. It is unknown what portion of the UST system is the source of the residual oil release.

Confirmed Release No. C-88-00:

Laboratory analytical results from soil samples collected during Geoprobe® drilling in the immediate vicinity of the closed-in-place Tank No. 1, 2, and 3 indicated that elevated contaminate concentrations were detected. It is unknown what portion of the UST system is the source of the diesel release.

C. Describe how the release was discovered.

Confirmed Release No. C-1332-99 and C-1332:

A confirmed release was reported based on stained soils, petroleum odor, and elevated PID readings detected during the removal of Tank No. 9, 10, 12, and 19.

Confirmed Release No. C-1388-99:

A confirmed release was reported based on petroleum odor and elevated PID readings detected during Geoprobe® drilling activities in the immediate vicinity of closed-in-place Tank No. 5, 6, 7, and Tank No. 8, 13, 14, 16, and 18.

Confirmed Release No. C-88-00:

A confirmed release was reported based on the analytical results from soil samples collected during Geoprobe® drilling in the immediate vicinity of closed-in-place Tank No. 1, 2, and 3

D. Describe any tank tightness testing performed in response to this release and provide the date of testing, method of testing, and results of testing.

Not Applicable. Each of the USTs at the subject site were removed or closed-in-place. Therefore, tank tightness testing was not necessary.

E. List all former and existing USTs at the facility.

Tank ID Number (As Registered)	Tank Capacity (gallons)	Contents (Regulated Substance)	Was the tank identified as a LUST?	Has the tank been emptied (Date)?	Has the tank been removed or closed-in-place (Date)?
1	50,000	Diesel	No	Yes, 12/30/99	Closed-in-place, 1/5/00
2	50,000	Diesel	No	Yes, 12/22/99	Closed-in-place, 12/22/99
3	50,000	Diesel	No	Yes, 12/30/99	Closed-in-place, 1/4/00
4	12,000	Gasoline	No	Yes, 12/29/99	Closed-in-place, 1/4/00
5	1,000	Engine Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
6	1,000	Engine Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
7	1,000	Converter Oil	No	Yes, 12/21/99	Closed-in-place, 12/22/99
8	1,000	Dextron	No	Yes, 1/4/00	Closed-in-place, 1/4/00
9	20,000	Engine Reserves	No	Yes, 12/20/99	Yes, Removed 12/20/99
10	20,000	Engine Reserves	No	Yes, 12/20/99	Yes, Removed 12/20/99
11	1,500	Waste Oil	No	Yes, 12/22/99	Closed-in-place, 12/22/99
12	12,000	Gasoline	No	Yes, 12/21/99	Yes, Removed 12/21/99
14	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
15	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
16	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
17	500	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
18	1,000	Water	No	Yes, 12/22/99	Yes, Removed 12/22/99
19	20,000	Gasoline	No	Yes, 12/23/99	Yes, Removed 12/23/99

F. Describe the initial response actions which were performed at this site, as specified in Sections 21307(2)(a) through (c), and (3)(a) and (b).

In December 1999, during UST closure activities, the site was surveyed for possible fire, explosion, and vapor hazards. No fire, explosion, or vapor hazards were readily observed at the subject site.

2.0 REPORTING AND RESPONSE FOLLOWING THE DISCOVERY OF THE FREE PRODUCT

A. Describe initial response actions performed at this site to address the presence of free product as specified in Sections 21307(2)(c) and (f), and (3)(b) and (c), 21308a (1)(b)(xviii). Refer to the STD Operational Memorandum No. 7, Identification, Reporting, and Recovery of Free Product at LUST Sites.

Not Applicable. Free product has not been encountered at the site.

B. Attach the USTD Free Product Recovery Status Report (EQP 3850).

Not Applicable.

C. Include a schedule for subsequent Free Product Report Submittals.

Not Applicable.

3.0 SITE CHARACTERIZATION INFORMATION

3.1 SCALED SITE MAPS

A. Provide a scaled area map (or maps) which includes the following: site boundaries in relation to the surrounding area and the nearest major roads, location and depth of nearby underground sewers and utility lines; location of nearby surface waters or wetlands, location and screened depth of all off-site wells (municipal, residential, production, irrigation, etc.) within two years groundwater travel time of the property line; and location of all nearby delineated well-head protection areas.

Site boundaries in relation to the surrounding area and the nearest major roads and nearby surface waters are presented on Figure 1, Area Location Map. A water well search within a ½ mile radius of the site was conducted through the MDEQ Lansing office. Results of the water well search indicated that no water well records were located within a ½ mile radius of the subject site. In addition, the City of Detroit ordinance will not allow for the installation of a water supply well.

According to the MDEQ World Wide Web (www) page, a delineated well-head protection area map for Wayne County is currently under preparation and not available at this time.

B. Provide a scaled area map (or maps) which includes the following: location of fill ports, piping, and dispensers, and other pertinent system components for all UST systems currently or formerly at the facility (prior to excavation if tanks have been removed); location of the release and the component of the LUST system from which the release occurred; location of adjacent buildings and roadways, paved areas, or other structures; location of all on-site wells and screened intervals; location of soil and groundwater samples; and excavation dimensions with sample locations.

The location of the UST fill ports are presented on Figure 2. Also illustrated on Figure 2 are the adjacent properties, roadways, paved areas, site buildings, and site structures. Sample locations, UST excavation dimensions, and maximum soil concentrations are presented on Figures 3, 4, and 5.

Upon completion of the installation of monitor wells (as proposed in Section 5.3 C), a maximum groundwater concentration figure will be prepared and presented to the MDEQ in the Final Assessment Report (FAR).

3.2 SCALED CROSS-SECTIONAL DIAGRAMS

A. Provide scaled cross-sectional diagrams of buried utility corridors, including the pipe diameter, the type of backfill, and the trench depth.

Not available at this time. The City of Detroit Water & Sewage Department will be contacted for any available maps depicting the location and depth of buried utility corridors on or near the subject site. If available, a scaled cross-sectional diagram of the buried utility corridors will be prepared and submitted to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

B. Provide scaled cross-sectional diagrams depicting the soil lithology and the contaminant distribution, including sampling intervals and boring depths.

A cross-sectional diagram of the soil lithology and contaminant distribution, including sampling intervals and boring depths will be prepared and presented to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

C. Provide scaled cross-sectional diagrams depicting the site hydrogeology, including the groundwater potentiometric surface, the monitoring well screened intervals, and sampling intervals.

A cross-sectional diagram of the site hydrogeology, including the groundwater potentiometric surface, monitoring well screened intervals, and sampling intervals will also be prepared and presented to the MDEQ upon completion of the proposed site investigation (see Section 5.3 C).

3.3 SOIL CONDITIONS AND CHARACTERISTICS

A. Describe soil encountered in the vadose zone.

Soil encountered at the site during UST closure and Geoprobe® drilling activities consisted of fill material (brown, fine-grained sand) ranging in depths from 0 to 6 feet below ground (bg). Underlying the fill material was clay ranging in depths from 2 to 16 feet bg, total depth explored. However, in soil borings GP-15, GP-16, GP-18, GP-19, and GP-20 fill material was encountered from 0 to 16 feet bg. Soil boring logs are included in Attachment A.

B. Describe any soil contamination which has been detected.

Closed-In-Place Diesel and Gasoline Aqua System USTs

On January 5, 2000, six soil borings were advanced using a Geoprobe® in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3) and the closed-in-place gasoline aqua system UST (Tank No. 4). These borings are denoted as GP-15, GP-16, GP-18, GP-19, and GP-20 on Figure 3. Laboratory analytical results for soil samples GP-15 (10-12' and 13-15'), GP-16 (7-8' and 10-12'), GP-18 (6-7' and 12-14'), GP-19 (9-7' and 15-16'), and GP-20 (7-8') indicated that lead was detected below the Statewide Default Background Level for lead. Ethylbenzene, xylenes, and 1,3,5-trimethylbenzene (from soil sample GP-18/6-7') and toluene and 1,2,4-trimethylbenzene (from soil samples GP-18/6-7' and GP-18/12-14') were also detected below the Tier I Commercial III RBSLs.

Benzene concentrations from soil sample GP-18 (6-7') were detected above the Tier I Commercial Drinking Water RBSL. Soil analytical data and soil sample locations are presented in Table 2a and on Figure 3, respectively.

A groundwater sample was collected from soil boring GP-20 (Figure 3). Groundwater analytical results indicated that naphthalene and 2-methylnaphthalene were detected below the Tier I Commercial III RBSLs. Groundwater analytical data is presented in Table 4.

Gasoline UST Excavation Area

On December 20, 1999, a total of five soil verification samples were collected from the sidewalls of the gasoline UST (Tank No. 12). These soil samples are denoted as 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), 12 W Sidewall (6'), and 12 SE Sidewall (4') on Figure 3. Groundwater was encountered in the excavation pit. Therefore, a groundwater sample (12 bottom) was collected in place of a bottom soil verification sample. Laboratory analytical results for soil samples 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), and 12 SE Sidewall (4') indicated that lead was detected below the Statewide Default Background Level for lead. However, lead was detected above the Statewide Default Background Level for soil sample 12 W Sidewall (6').

Various volatile organic compounds (VOCs) from soil samples 12 N Sidewall (6'), 12 S Sidewall (6'), 12 E Sidewall (6'), 12 W Sidewall (6'), and 12 SE Sidewall (4') were detected below the Tier I Commercial III RBSLs. The following VOC concentrations were detected above the Tier I Commercial III Drinking Water RBSL: benzene and 1,2,4-trimethylbenzene (from soil samples 12 N Sidewall/6', 12 S Sidewall/6', 12 E Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), toluene (from soil samples 12 N Sidewall/6', 12 E Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), xylenes and 1,3,5-trimethylbenzene (12 N Sidewall/6', 12 W Sidewall/6', and 12 SE Sidewall/4'), and naphthalene and 2-methylnaphthalene (from soil samples 12 N Sidewall/6' and 12 W Sidewall/6'). Soil analytical results and soil sample locations are presented in Table 2a and on Figure 3, respectively.

Groundwater analytical results for groundwater sample Tank 12 Bottom indicated that 1,1-dichloroethane, 1,2-dibromoethane, and lead were not detected at or above the MDEQ method detection limits. Methyl tert-butyl ether (MTBE) concentrations from Tank 12 Bottom was detected below the Tier I Commercial III RBSLs. However, benzene, toluene, ethylbenzene, and xylenes (BTEX), trimethylbenzenes (TMBs), naphthalene, and 2-methylnaphthalene concentrations were detected above the Tier I Commercial III Drinking Water RBSL. Groundwater analytical results are presented in Table 4. The location of Tank No. 12 is presented on Figure 3.

Aqua Trap USTs Excavation Area

On December 29 and 30, 1999, sixteen soil verification samples were collected in the vicinity of the former aqua trap system (Tanks No. 13, 14, 16, 17, and 18). These soil samples are denoted as 13 S Bottom (8'), 13 N Bottom (8'), 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 14 S Bottom (8'), 14 N Bottom (8'), 16 S Bottom (8'), 16 N Bottom (8'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 E Bottom (8'), and 18 W Bottom (8') on Figure 3. Laboratory analytical results for each of the sixteen soil samples indicated that lead was detected below the Statewide Default Background Level for lead.

Various polynuclear aromatics hydrocarbons (PNAs) were detected below the Tier I Commercial III RBSLs from soil samples 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 S Sidewall (6-8'), and 18 N Sidewall (18"). However, laboratory results indicated that from soil sample 13 W Sidewall (3-4') naphthalene was detected above the Tier I Commercial III Drinking Water RBSL.

Various VOCs were detected below the Tier I Commercial III RBSLs from soil samples 13 S Sidewall (3-4'), 13 W Sidewall (3-4'), 14 S Bottom (8'), 14 N Bottom (8'), 16 S Bottom (8'), 16 N Bottom (8'), 16 S Sidewall (4-6'), 16 N Sidewall (2-3'), 17 S Bottom (8'), 17 N Bottom (8'), 18 E Bottom (8'), and 18 W Bottom (8'). The following VOCs were detected above the Tier I Commercial III Drinking Water RBSL: benzene (from soil samples 13 S Sidewall/3-4', 13 W Sidewall/3-4', 16 S Sidewall/4-6', and 18 S Sidewall/6-8'), ethylbenzene and TMBs (from soil samples 13 S Sidewall/3-4', 13 W Sidewall/3-4', 16 S Sidewall/4-6', 16 N Sidewall/2-3', and 18 S Sidewall/6-8'), xylenes

(from soil samples 13 S Sidewall/3-4' and 16 N Sidewall/2-3'), naphthalene (from soil sample 13 S Sidewall/3-4'), and 2-methylnaphthalene (from soil samples 13 S Sidewall/2-3' and 16 S Sidewall/4-6'). Soil analytical data and soil sample locations are presented in Table 2a and on Figure 3, respectively.

Closed-In-Place Waste Oil UST

On December 30, 1999, four soil verification samples were collected in the vicinity of the closed-in-place waste oil UST (Tank No. 11). These soil samples are denoted as 11 S Bottom (11-12'), 11 N Bottom (10-11'), 11 S Sidewall (7-8')/GP-9, and 11 S Bottom (11-12')/GP-9 on Figure 4. Based on visual and PID readings, two of the four soil samples (11 S Bottom/11-12') and 11 N Bottom/10-11') were submitted for laboratory analysis. Laboratory analytical results for each of the two soil samples indicated that VOCs, PNAs, and polychlorinated biphenyls (PCBs) were not detected at or above the MDEQ method detection limits. Cadmium, chromium, and lead were detected below the Tier I Commercial III RBSLs for each of the two soil samples. Soil analytical data and soil sample locations are presented in Table 2a and on Figure 4, respectively.

Closed-In-Place Engine Oil, Converter Oil, and Dextron USTs

On December 30, 1999, and January 5, 2000, nine soil verification samples were collected using a Geoprobe® in the vicinity of the closed-in-place engine oil USTs, converter oil UST, and dextron UST (Tank No. 5, 6, 7, and 8). These soil samples are denoted as 5 N Sidewall (4-6'), 5 Bottom (10-11'), 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), 7 N Sidewall (6-7'), 7 Bottom (10-11'), 8 N End (2-3'), and 8 N End (10-11') on Figure 3. Laboratory results for soil samples 5 N Sidewall (4-6'), 7 N Sidewall (6-7'), 7 Bottom (10-11') indicated that TMBs were detected below the Tier I Commercial III RBSLs. However, TMBs for soil samples 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), and 8 N End (2-3') were detected above the Tier I Commercial III Drinking Water RBSL.

Various PNAs for soil samples 5 N Sidewall (4-6'), 6 N Sidewall (4-6'), 6 Bottom (9-11'), 7 N Sidewall (2-3'), 7 N Sidewall (6-7'), 7 Bottom (10-11'), 8 N End (2-3'), and 8 N End (10-11') were detected below the Tier I Commercial III RBSLs. Naphthalene and 2-methylnaphthalene were detected above the Tier I Commercial III Drinking Water RBSL for soil samples 7 N Sidewall (2-3') and 8 N End (2-3'). Soil analytical and soil sample locations are presented in Table 2b and on Figure 3, respectively.

Engine Oil and Gasoline Reserve UST Excavation Area

On December 20 and 23, 1999, seventeen soil verification samples were collected in the vicinity of the two engine oil reserve USTs (Tank No. 9 and 10), the gasoline reserve UST (Tank No. 19), and the associated UST piping. These soil samples are denoted as 9 E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18'), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 E Bottom (14'), 10 W Bottom (14'), 10 E Sidewall (6'), 10 W Sidewall (8'), Pipe Run (3'), 19 E Bottom (14'), 19 W Bottom (14'), 19 E Sidewall (8'), 19 W Sidewall (8'), 19 NE Sidewall (8.5'), and 19 NW Sidewall (9') on Figure 5. Laboratory results for soil samples E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18'), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 E Bottom (14'), 10 W

Sidewall (8'), 19 E Bottom (14'), 19 W Bottom (14'), 19 E Sidewall (8'), 19 W Sidewall (8'), 19 NE Sidewall (8.5'), and 19 NW Sidewall (9') were detected below the Statewide Default Background Level for lead. For soil samples 10 W Bottom (14'), 10 E Sidewall (6'), and Pipe Run (3'), lead was detected above the Tier I Commercial III Drinking Water RBSL.

Various PNAs were detected below the Tier I Commercial III RBSLs for soil samples 9 E Sidewall (8'), 9 W Sidewall (10'), 10 W Bottom (14'), 10 E Sidewall (6'), Pipe Run (3'), 19 E Sidewall (8'), and 19 NE Sidewall (8.5'). In addition, various VOCs were detected below the Tier I Commercial III RBSLs for soil samples E Bottom (14'), 9 W Bottom (14'), 9 E Sidewall (8'), 9 W Sidewall (18"), 9 SE Sidewall (10'), 9 SW Sidewall (4'), 10 W Bottom (14'), 10 E Sidewall (6'), 10 W Sidewall (8'), Pipe Run (3'), 19 E Sidewall (8'), and 19 NW Sidewall (9'). However, the following VOCs were detected above the Tier I Commercial III Drinking Water RBSL: benzene (from soil samples 9 E Sidewall/8', 9 W Sidewall/10', 10 W Bottom/14', 10 E Sidewall/6', 10 W Sidewall/8', and 19 E Sidewall/8'), toluene (from soil samples 10 W Bottom/14' and 19 E Sidewall/8'), ethylbenzene (from soil samples 9 E Bottom/14', 9 W Bottom/14', 10 W Bottom/14', and 19 E Sidewall/8'), xylenes (from soil samples 10 W Bottom/14' and 19 E Sidewall/8'), and TMBs (from soil samples 9 W Bottom/14', 9 W Sidewall/18", 10 W Bottom/14', 10 E Sidewall/6', and 19 E Sidewall/8'). Soil analytical results and soil sample locations are presented in Table 2a and on Figure 3, respectively.

C. Describe any soil remediation or disposal activities performed to date, including the volume of soil remediated or disposed. Indicate the disposal location, and provide proof of disposal (e.g., invoices, not load tickets).

Approximately 1,020 cubic yards of impacted soil were excavated and disposed at Browning-Ferris Industries (BFI) located at Arbor Hills Landfill 10930 Six Mile Road in Northville, Michigan. Manifests are included in Attachment B.

D. Provide a site diagram which identifies the estimated horizontal and vertical extent of on-site and off-site soil contamination. Include the maximum concentrations and sample depths.

Maximum soil concentrations are presented on Figures 3, 4, and 5. Figure 3 depicts sample locations in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3), the closed-in-place gasoline aqua system UST (Tank No. 4), closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), and the closed-in-place dextron UST (Tank No. 8), and the gasoline UST (Tank No. 12). Figure 4 depicts sample locations in the vicinity of the closed-in-place waste oil UST (Tank No. 11). Figure 5 depicts sample location in the vicinity of the engine oil reserve USTs (Tank No. 9 and 10) and the gasoline reserve UST (Tank No. 19).

E. Provide an estimate of the volume of impacted soil remaining in the vadose zone.

An estimate of the volume of impacted soil remaining in the vadose zone will be determined upon completion of the proposed site investigation, as summarized in Section 5.3 C.

F. Describe steps that have been taken, or will be taken, to secure access to off-site properties, including easements and right-of-ways, to complete the delineation of the extent of the off-site impact of the release to soil. Include the names and addresses of potentially affected off-site property owners.

At this time, off-site access has not been solicited. In order to delineate the extent of the plume north of the subject property (commercial property), off-site access will be pursued.

G. Provide the schedule for completing the delineation of the extent of the off-site impact of the release to the soil.

Based on the results of the UST closure activities, the extent of the off-site impact of the release to the soil will be investigated. The scope of work and schedule for the proposed off-site plume delineation investigation are summarized in Section 5.3 C.

H. Provide a table with field screening and laboratory data showing the results of all soil sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14 (Analytical Parameters and Methods, Sample Handling, and Preservation for Petroleum Releases).

Field screening results for soil are presented in Table 1. Soil analytical data is presented in Tables 2a and 2b. The following analytical parameters were used:

Leaded Gasoline Parameters

Soil samples collected in the vicinity of the gasoline UST (Tank No. 12), the gasoline aqua system UST (Tank No. 4), and the gasoline reserve UST (Tank No. 19) were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert-butyl ether (MTBE), 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene (TMBs), 1,2-dibromoethane, 1,2-dichloroethane, naphthalene, and 2-methylnaphthalene by U.S. EPA Method 8260 and lead by U.S. EPA Method 6010 (Table 2a).

Residual Oil Parameters

Soil samples collected in the vicinity of the closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), the closed-in-place dextron UST (Tank No. 8) and the engine oil reserve USTs (Tank No. 9 and 10) were submitted for laboratory analysis of TMBs by U.S. EPA Method 8260 and PNAs by U.S. EPA Method 8310 (Table 2a).

Light Distillate Oil Parameters

Soil samples collected in the vicinity of the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3) were submitted for laboratory analysis of BTEX and TMBs by U.S. EPA 8260 and PNAs by U.S. EPA Method 8310 (Table 2a).

Waste Oil Parameters

Soil samples collected in the vicinity of the closed-in-place waste oil UST (Tank No. 11) excavation were submitted for laboratory analysis of volatile halocarbons (includes BTEX, TMBs, 1,2-dibromoethane, 1,2-dichloroethane) by U.S. EPA Method 8260, PNAs by U.S. EPA Method 8310, PCBs by U.S. EPA Method 8082 and cadmium, chromium, and lead by U.S. EPA Method 6010 (Tables 2b and 2c).

I. Provide a table which compares the maximum remaining soil contaminant concentrations for each required parameter to the appropriate RBSLs as provided in STD Operational Memorandum No. 4 (Tier I Lookup Tables for Risk-Based Corrective Action at Leaking Underground Storage Tank Sites). If residential leaching to groundwater RBSLs are not utilized for comparison, provide an explanation.

A soil comparison table is presented in Table 3. Commercial III leaching to groundwater RBSLs were utilized based on the land use and zoning of the site.

J. Provide soil boring logs.

Soil boring logs generated during Geoprobe® drilling activities are included in Attachment A.

K. Identify any known soil contamination not related to the release and the source, if known.

Not Applicable.

3.4 GROUNDWATER CONDITIONS AND CHARACTERISTICS

A. Describe the site hydrogeology, and include: depth to groundwater and method of determination; whether the groundwater is potable and/or not in an aquifer, provide the basis for this determination (Refer to STD Operational Memorandum No. 11, Criteria to Eliminate the Potable Groundwater Pathway); whether the groundwater is currently used as a source of drinking water, either residential or municipal; whether groundwater is being used for a purpose other than drinking water; whether more than one groundwater unit is present beneath the site; depth to bottom of water-bearing layer; predominant soil type in water-bearing stratum (e.g., sand, silt); effective porosity of water-bearing stratum (in $\text{cm}^3 \text{ void} / \text{cm}^3 \text{ matrix}$), and describe how it was determined; hydraulic conductivity, and describe how it was determined; groundwater flow rate and direction; lateral component of the hydraulic gradient; hydrogeologic conditions that could influence flow direction; and magnitude and direction of the vertical component of the hydraulic gradient.

At this time, an insufficient amount of groundwater characterization data is available to appropriately compare site data to the MDEQ storage tank division (STD) Operational Memorandum No. 11 (dated August 25, 1997) to determine whether the potable water pathway can be eliminated. Therefore, in this report, site data were compared to the MDEQ Drinking Water RBSLs. As summarized in Section 5.3 C of this report, the proposed site investigation will provide the additional data necessary to characterize the groundwater and evaluate the potable groundwater pathway. The proposed site investigation will include determining the effective porosity of the water-bearing stratum, the hydraulic conductivity, the groundwater flow rate and direction, the lateral component of the hydraulic gradient, and the magnitude and direction of the vertical component of the hydraulic gradient.

Based on the results of the water well log search conducted through the MDEQ water well log division in Lansing, there is no evidence that groundwater is being used as a source of drinking water at the site or in the vicinity of the site. It is unknown whether more than one groundwater unit is present beneath the site and the depth to the bottom of the water-bearing layer is unknown. The predominant soil type encountered in the shallow perched groundwater zone was sand (fill material).

B. Attach copies of the following: boring logs, well construction diagrams, potentiometric surface map, and elevation data (USGS datum preferred), including top-of-casing, and grade elevations, and depth to groundwater.

Soil boring logs are included in Attachment A. Upon completion of the proposed site investigation (summarized in Section 5.3 C), a potentiometric surface map and an elevation data table will be submitted to the MDEQ.

C. Provide scaled maps and cross-sectional diagrams, showing the screened and/or sampling interval, which depict the extent of impact and the maximum concentrations.

Maximum groundwater concentrations, sample intervals, and cross-sectional diagrams will be prepared and submitted to the MDEQ upon completion of the proposed site investigation activities (Section 5.3 C).

D. Indicate whether more than one groundwater unit has been impacted.

More than one groundwater unit has not been encountered at the site.

E. Describe any groundwater remediation activities performed to date, including the total volume of groundwater remediated and the disposition of this groundwater.

No groundwater remediation activities were performed to date at the site.

F. Provide an indication of whether the plume currently extends off-site.

At this time, it is unknown whether the plume extends off-site. Delineation of the extent of plume will be investigated as proposed in Section 5.3 C. Results of the investigation will be presented to the MDEQ.

G. Describe steps that have been taken, or will be taken, to secure access to off-site properties, including easements and right-of-ways, for the purpose of completing the delineation of the extent of the release to groundwater, and provide the names and addresses of off-site property owners.

Verification of whether the plume extends off-site, along the northern property boundary, will be determined upon completion of the proposed site investigation activities summarized in Section 5.3 C. If the results of the site investigation indicate the plume extends off-site, then action will be taken to secure off-site access.

H. Provide the schedule for completing the delineation of the extent of the off-site impact of the release to groundwater.

Upon completion of the proposed site investigation (Section 5.3 C) and review of the results, off-site access will be pursued. Off-site delineation will begin as soon as off-site access is granted. Delineation of the plume is scheduled to be completed prior to the submittal of the Final Assessment Report for this site.

I. Provide a table with field screening and laboratory data showing the results of all groundwater sampling performed to date for the required parameters. Refer to the STD Operational Memorandum No. 14.

A field screening table for groundwater is not available. Laboratory analytical results for groundwater are presented in Table 4. A comparison table for maximum concentrations in groundwater to the Tier I Commercial III RBSLs is presented in Table 5.

3.5 CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA

A. Describe the evaluations conducted to determine if other environmental media have been impacted.

Not Applicable. It is not deemed necessary, at this time, for other environmental media to be investigated.

4.0 SITE CLASSIFICATION

A. Indicate the current Site Classification Level, in accordance with STD Operational Memorandum No. 5, Leaking Underground Storage Tank (LUST) Site Classification System.

In accordance with the STD Operational Memorandum No. 5, LUST Site Classification System, the current site classification level is Class 3.

B. Provide a justification for this classification. Identify the current conditions that are the basis of the classification, and dates that the prescribed initial response actions were implemented.

This classification is appropriate based on soil concentrations detected above the MDEQ Tier I Commercial III Drinking Water RBSLs. Response actions were implemented on December 20, 1999.

5.0 RESULTS OF THE RBCA EVALUATION

5.1 EXPOSURE PATHWAY CHARACTERIZATION

A. Identify and describe the potentially applicable Exposure Scenarios:

<i>Exposure Scenarios</i>	<i>Exposure Pathway Characterization</i>
<i>Potential Source(s)</i>	- Impacted Soils - Dissolved Groundwater Plume
<i>Potential Transport Mechanism(s)</i>	- Volatilization and Atmospheric Dispersion - Volatilization and Enclosed-Space Accumulation - Utility Corridors - Leaching and Groundwater Transport
<i>Potential Exposure Route(s)</i>	- Soil Ingestion - Direct Contact of Soil with Skin - Inhalation of Volatiles - Direct Contact with Groundwater
<i>Potential Receptor(s)</i>	- Construction Worker - Commercial Worker - Structures - Utilities

Exposure pathways for groundwater will be evaluated during the proposed site investigation activities (see Section 5.3 C). Upon completion of the investigation, results will be presented to the MDEQ.

B. List each possible exposure pathways for each land use, and sensitive habitat for the site. Provide an explanation for eliminating any pathways.

Residential Exposure Pathways: The subject property land use and zoning is commercial. No residential construction exists on, near, or will be approved for, this location. No residential receptors are known to exist; therefore, this pathway is incomplete.

Commercial Exposure Pathways: The most plausible potential commercial exposure pathway for the site is direct contact with soil or groundwater during construction activities such as excavation, utility repair, etc.

Industrial Exposure Pathways: No industrial receptors are known to exist; therefore, the pathway is incomplete.

Sensitive Habitat Exposure Pathways: No sensitive habitat receptors are known to exist; therefore, the pathway is incomplete.

5.2 OPTIONAL TIER II EVALUATION

A. Indicate whether a site-specific Tier II or evaluation has been conducted for this site.

At this time, a site-specific Tier II evaluation is not necessary. Therefore, it has not been conducted for this site.

B. If applicable, identify and justify where alternate assumptions or site-specific information were used in place of the default assumptions as defined in the USTD Operational Memorandum No. 4.

Not applicable.

C. Provide the calculations and reference citations supporting the development of the relevant Tier II SSTLs.

Not applicable.

D. Provide a table which compares the maximum remaining contaminant concentrations for each required parameter for all media to the appropriate RBSLs (as provided in the STD Operational Memorandum No. 4), and the calculated SSTLs. Identify all applicable land use scenarios, and indicate whether or not there is an exceedance of the RBSLs or the SSTLs.

Not applicable.

5.3 PROPOSED FOLLOW-UP ACTIVITIES

A. Based on the results of the Tier I or Tier II evaluation, indicate the follow-up activities proposed for the site (e.g., site closure interim corrective action with subsequent reevaluation; final corrective action to achieve Tier I RBSLs or Tier II SSTLs; or perform further site-specific Tier II or Tier III evaluation to establish alternative SSTLs that meet the target risk goals).

The proposed interim corrective actions will initially begin with an on-site investigation to delineate soil and groundwater impact and determine the groundwater characteristics and conditions at the site. In addition, the on-site investigation will provide data to determine whether the plume extends off-site. If results indicate that the plume extends off-site, off-site access will be pursued. Upon approval of off-site access, an investigation will be conducted off-site to delineate the extent of the plume and evaluate off-site conditions. Results of the proposed investigation will be presented in the Final Assessment Report (FAR).

B. Provide justification for the option chosen.

Based on the results of the soil verification samples collected during UST closure activities, the extent of soil and groundwater impact and the groundwater conditions at the site have not been completely defined in order to evaluate the appropriate remedial action or closure options for the site. Therefore, site conditions will be further evaluated from data collected during the proposed site investigation activities (see Section 5.3 C). As indicated in Section 5.3 A, the results of the proposed site investigation will be presented in the FAR.

C. Provide a Work Plan and implementation schedule that describes the proposed site characterization activities to be performed to determine the horizontal and vertical extent of contamination. Include a scaled site map depicting proposed sampling locations.

Purpose

The purpose of this proposed site investigation is to present sufficient data to define the extent of soil and groundwater impact identified during the UST closure activities. In addition, this proposed site investigation will provide data to determine the characteristics and conditions of the soil and groundwater and to evaluate the potential exposure pathways. The proposed site investigation activities are summarized in detail below.

Drilling and Sampling Activities

Prior to conducting drilling activities, underground utilities will be located and documented. In addition, the City of Detroit Water & Sewage Department will be contacted for any available maps depicting the location and depth of buried utility corridors.

To adequately define the extent of soil and groundwater impact at the site, a total of seventeen soil borings are proposed to be advanced. Proposed boring locations are presented on Figures 6A and 6B. The location and number of borings selected was established based on the analytical results from samples collected during the UST closure activities. The final locations of these borings may be altered due to conditions encountered in the field during drilling activities.

Proposed soil borings will be advanced using a Geoprobe® truck-mounted drill rig. Geoprobe® drilling will be performed using two-inch stainless steel probes that will be hydraulically driven. Soil samples will be collected continuously using a macro core sampling device, which provides a four-foot long sample encapsulated in a clear acetate sleeve. Soil borings will be advanced to a maximum depth of 20 feet bg. However, if significant contamination is present at this depth, the borings will be advanced beyond 20 feet bg to determine the approximate vertical extent of contamination.

Upon retrieval to the surface, soil samples will be visually inspected, classified geologically, and field screened with an organic vapor meter (OVM) equipped with a photoionization detector (PID). The soil samples exhibiting the maximum visual, olfactory, or PID evidence of contamination from each boring will be selected for laboratory analysis. If all soil samples from a soil boring exhibit minimal visual, olfactory, or PID evidence of contamination, then the soil sample collected approximately two to four feet above the water table will be selected for analysis. In addition, the boring terminus sample will be collected to define the approximate vertical extent of contamination.

Soil samples collected for laboratory analysis will be preserved with methanol, labeled, and stored on ice in a cooler. Proper chain-of-custody procedures will be followed. Soil samples will be submitted to the laboratory for the following analyzes and parameters:

- In the vicinity of the closed-in-place waste oil UST (Tank No. 5), soil samples will be submitted for laboratory analysis of BTEX, TMBs, 1,2-dichloroethane, 1,2-dibromoethane, and volatile halocarbons by U.S. EPA Method 8260, PNAs by U.S. EPA Method 8310, cadmium, chromium, and lead by U.S. EPA Method 6010, and PCBs by U.S. EPA Method 8082. These parameters are required by the MDEQ for the previous storage of waste oil at a site.
- In the vicinity of the former gasoline UST (Tank No. 12), the former gasoline reserve UST (Tank No. 19), the closed-in-place gasoline aqua system UST (Tank No. 4), the closed-in-place diesel aqua system USTs (Tank No. 1, 2, and 3), and the former aqua system trap USTs (Tank No. 13, 14, 16, 17, and 18), soil samples will be submitted for laboratory analysis of BTEX, MTBE, TMBs, 1,2-dichloroethane, 1,2-dibromoethane, naphthalene, and 2-methylnaphthalene by U.S. EPA Method 8260, and PNAs by U.S. EPA Method 8310. These parameters are required by the MDEQ for the previous storage of gasoline and diesel.

- In the vicinity of the closed-in-place engine oil USTs (Tank No. 5 and 6), the closed-in-place converter oil UST (Tank No. 7), and the closed-in-place dextron UST (Tank No. 8), soil samples will be submitted for laboratory analysis of TMBs by U.S. EPA Method 8260 and PNAs by U.S. EPA Method 8310. These parameters are required by the MDEQ for the previous storage of residual oils at a site.

Field Standard Operating Procedures (SOPs) for Geoprobe® and HSA drilling, Quality Assurance/Quality Control (QA/QC) sampling, decontamination procedures, and health and safety plans are included in Attachment C.

Monitoring Well Installation

Based on the soil and groundwater conditions encountered during Geoprobe® drilling, approximately eight of the seventeen proposed soil borings will be completed as permanent monitoring wells (Figures 6A and 6B) to monitor groundwater concentrations at the site. In borings not completed as permanent monitor wells, a groundwater sample will be collected from the boring prior to abandonment. The monitor wells will be installed using a hollow stem auger (HSA) drill-rig. Drilling will be performed using a ¼ -inch inner diameter (ID) HSA.

Monitor wells will be constructed of two-inch ID polyvinyl chloride (PVC) materials, with a screen length of five feet. Screens will be of the machine slotted type, and the slot size will be 0.010 inches. Wells will be installed such that the screened interval is straddling the water table. The approximate depth will be determined in the field during drilling. The wells will be sealed with expandable locking caps and finished with flush mounted protective covers set in concrete.

The annular space around the wells will be packed with silica filter sand from the bottom of the screen to approximately one foot above the screen, followed by a one-foot thick bentonite seal. The remaining annular space will be filled with either bentonite chips or cement grout to the concrete pad. Locking water tight well caps will be placed on each well and flush-mounted, traffic-rated, steel protective covers will be set in concrete and installed to prevent unauthorized access and for the protection of the monitoring well.

After the wells are installed, each well will be developed by a combination of appropriate techniques, including bailing, surging, jetting, or pumping to ensure maximum communication with the aquifer across the screened interval. Each well (top of casing) will be surveyed to the nearest 0.01 foot to allow for groundwater flow direction calculations.

SOPs for monitoring well installation, well development, and well purging are included in Attachment C.

Groundwater Sampling

Groundwater samples will be collected from the newly installed monitor wells a minimum of 24 hours after development. Upon opening the each monitor well cap, the depth to water will be measured from the top of each well casing and recorded to the nearest 0.01 foot. This will provide data for calculating the volume of water to purge and for calculating the groundwater flow direction and gradient.

Prior to collecting groundwater samples from each of the newly installed monitor wells, three wetted-casing volumes of groundwater will be purged from the well. The purging will remove stagnant water from the well casing, ensuring that the sample is representative of the groundwater at the screened interval of the well. After purging, a groundwater sample will be collected using a new disposable polyethylene bailer with new bailer cord. Groundwater samples will be placed in appropriately preserved sample containers provided by the laboratory. Samples collected for dissolved lead analysis will be field-filtered through a 0.45-micron filter prior to collection. Once groundwater samples have been collected, samples will be stored on ice in a cooler and submitted to the laboratory. Proper chain-of-custody procedures will be followed. Groundwater samples will be submitted for the same analytical parameters as the soil samples, described above.

SOPs for groundwater sampling and QA/QC control sampling are included in Attachment C.

Hydrogeologic Characteristics Determination

The newly installed monitor wells will be surveyed to provide data for calculating the groundwater elevation for determining the groundwater flow direction. Survey measurements will be obtained from the north side of the top of each well casing. An assigned elevation of 100 feet will be used as a temporary benchmark. The survey data will be combined with the static water level measurements obtained during the groundwater sampling activities. A table presenting the groundwater elevation and a groundwater contour map will be presented to the MDEQ in a Quarterly Groundwater Monitoring Report.

Hydraulic conductivity testing will be performed on select monitor wells to characterize the hydraulic properties of the site's water-bearing zone. The hydraulic conductivity will be calculated with an equation based on the research of Bouwer and Rice, 1976 (Bouwer and Rice). Other hydrogeologic parameters, such as groundwater velocity and hydraulic gradient, will also be determined.

Off-Site Plume Delineation Investigation

If results from the proposed on-site investigation indicate that the plume extends off-site onto the Grand Trunk Railroad property (located southeast of the site), then off-site access will be pursued. Upon approval of off-site access, the extent of the plume will be investigated. The number of soil borings/monitoring wells to be installed off-site will be based on the results of the on-site investigation.

Report Preparation

Groundwater sampling from the newly installed monitor wells will be conducted on a quarterly basis. Results of the groundwater sampling activities will be presented to the MDEQ in a Quarterly Groundwater Monitoring Report. This report will also include groundwater elevation data and a groundwater contour map.

Results of the proposed site investigation activities will be included in a Final Assessment Report (FAR). This report will be submitted to the MDEQ and include a detailed description of the work completed at the site, an interpretation of the data, an evaluation of potential exposure pathways, and a feasibility analysis. If the investigation and quarterly groundwater monitoring results indicate that the site can be closed without further remediation and/or monitoring, a Closure Report will be submitted in lieu of the FAR.

Schedule

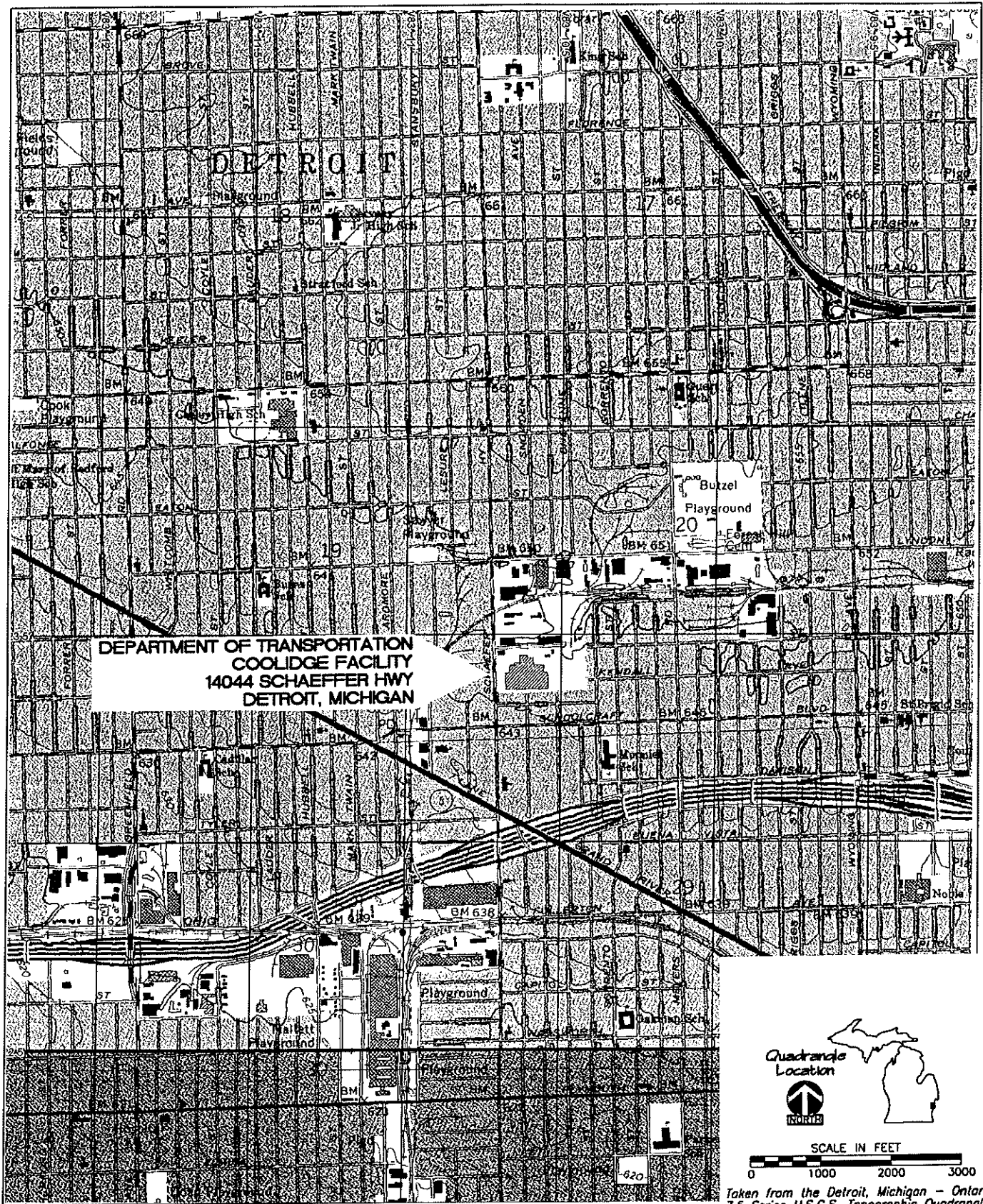
The proposed on-site investigation activities are tentatively scheduled to begin in May 2000. Based on the results of the on-site investigation, verification of whether the plume extends off-site will be determined. If results indicate that the plume extends off-site, then off-site plume delineation will be conducted. Groundwater concentrations will be monitored on a quarterly basis after initial installation and sampling. Prior to initiating field activities, the MDEQ will be notified a minimum of 48-hours.

Since the FAR is required to be submitted to the MDEQ-STD within 365 days after a release has been discovered, a FAR for this site will be prepared and submitted to the MDEQ-STD in December 2000.

9 / 19 / 19

10⁰⁰

FIGURES



02/28/00 DVS

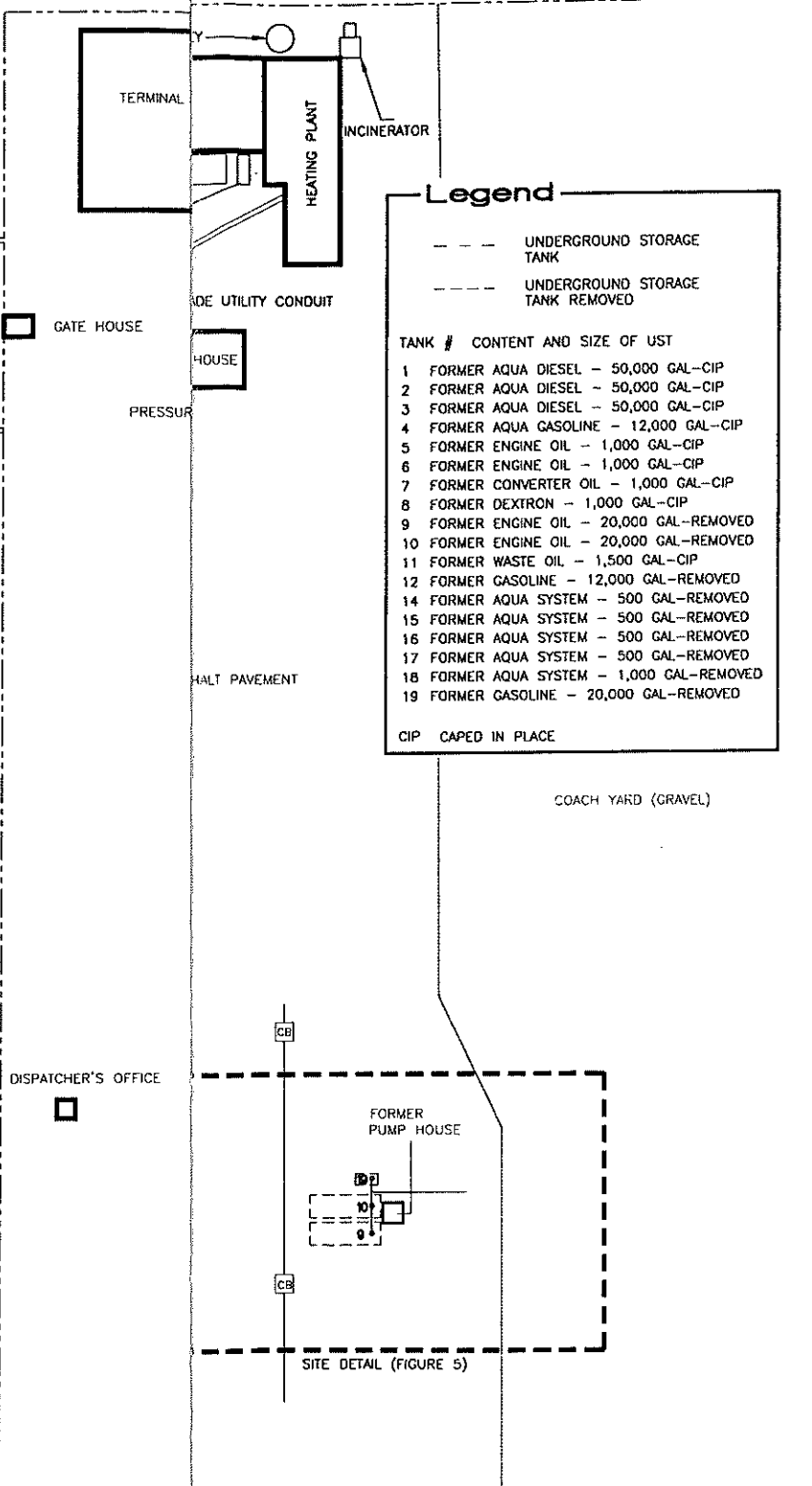


FIGURE 1
AREA LOCATION MAP
DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY
14044 SCHAEFFER HWY
DETROIT, MICHIGAN



COMMERCIAL PROPERTY (VACANT BODY SHOP)

SCHAEFFER HIGHWAY



Legend

- - - UNDERGROUND STORAGE TANK
- - - UNDERGROUND STORAGE TANK REMOVED

TANK # CONTENT AND SIZE OF UST

- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
- 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
- 5 FORMER ENGINE OIL - 1,000 GAL-CIP
- 6 FORMER ENGINE OIL - 1,000 GAL-CIP
- 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
- 8 FORMER DEXTRON - 1,000 GAL-CIP
- 9 FORMER ENGINE OIL - 20,000 GAL-REMOVED
- 10 FORMER ENGINE OIL - 20,000 GAL-REMOVED
- 11 FORMER WASTE OIL - 1,500 GAL-CIP
- 12 FORMER GASOLINE - 12,000 GAL-REMOVED
- 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 15 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
- 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED
- 19 FORMER GASOLINE - 20,000 GAL-REMOVED

CIP CAPED IN PLACE

COACH YARD (GRAVEL)

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO BE



FIGURE 2
SITE SKETCH
 COOLIDGE FACILITY
 DETROIT DEPARTMENT OF TRANSPORTATION
 14044 SCHAEFFER HWY.
 DETROIT, MICHIGAN



12 E Side

Benzene	
Ethylbenzene	
Toluene	
Xylenes	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Naphthalene	
2-Methylnaphthalene	

12 N Sidewall 6'

	µg/kg
Benzene	15,000
Ethylbenzene	22,000
Toluene	3,200
Xylenes	130,000
1,2,4-Trimethylbenzene	140,000
1,3,5-Trimethylbenzene	49,000
Naphthalene	220,000
2-Methylnaphthalene	450,000

12 W Sidewall 6'

	µg/kg
Benzene	13,000
Ethylbenzene	24,000
Toluene	4,800
Xylenes	150,000
1,2,4-Trimethylbenzene	180,000
1,3,5-Trimethylbenzene	68,000
Naphthalene	110,000
2-Methylnaphthalene	320,000

12 S Sidewall 6'

	µg/kg
Benzene	190
Ethylbenzene	420
Toluene	330
Xylenes	2,600
1,2,4-Trimethylbenzene	3,900
1,3,5-Trimethylbenzene	1,500
Naphthalene	1,100
2-Methylnaphthalene	2,400

12 SE Sidewall 4'

	µg/kg
Benzene	18,00
Ethylbenzene	15,00
Toluene	13,00
Xylenes	47,00
1,2,4-Trimethylbenzene	39,00
1,3,5-Trimethylbenzene	21,00
Naphthalene	27,00
2-Methylnaphthalene	21,00

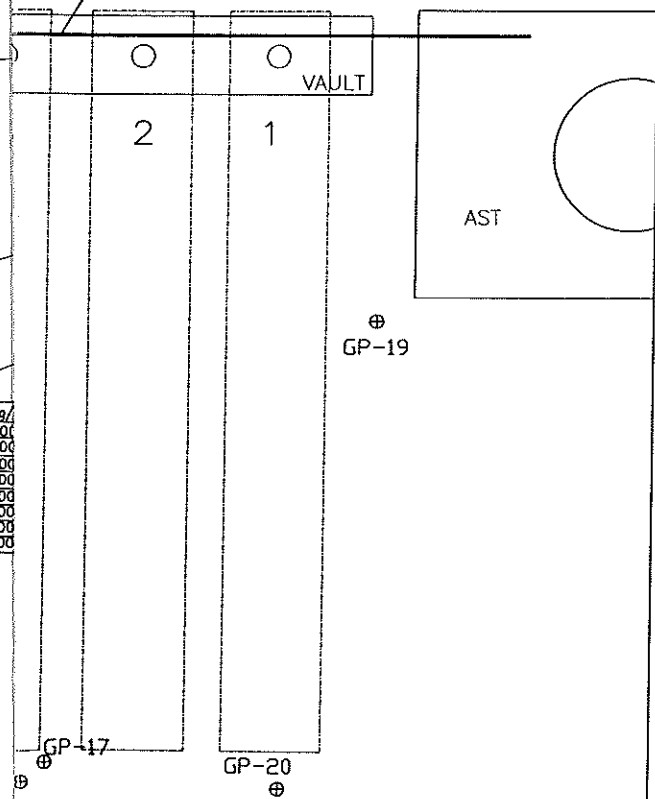
Legend

- SOIL SAMPLE LOCATION
- ⊕ SOIL BORING LOCATION

- LIMITS OF EXCAVATION
- UNDERGROUND STORAGE TANK
- - - UNDERGROUND STORAGE TANK REMOVED

- TANK # CONTENT AND SIZE OF UST
- 1 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 2 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 3 FORMER AQUA DIESEL - 50,000 GAL-CIP
 - 4 FORMER AQUA GASOLINE - 12,000 GAL-CIP
 - 5 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 6 FORMER ENGINE OIL - 1,000 GAL-CIP
 - 7 FORMER CONVERTER OIL - 1,000 GAL-CIP
 - 8 FORMER DEXTRON - 1,000 GAL-CIP
 - 12 FORMER GASOLINE - 12,000 GAL-REMOVED
 - 13 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 14 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 16 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 17 FORMER AQUA SYSTEM - 500 GAL-REMOVED
 - 18 FORMER AQUA SYSTEM - 1,000 GAL-REMOVED

AST PIPING TO PUMP HOUSE



NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACT



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FIGURE 3
 K No. 1,2,3,4,5,6,7,8,12,13,14,16,17 AND 18
 IT DEPARTMENT OF TRANSPORTAITON
 14044 SCHAFFER HIGHWAY
 DETROIT, MICHIGAN



Legend

- ⊕ SOIL BORING LOCATION
- LIMITS OF EXCAVATION
- - - UNDERGROUND STORAGE TANK

TANK # CONTENT AND SIZE OF UST
 11 FORMER WASTE OIL - 1,500 GAL -CIP
 CIP CLOSED IN PLACE

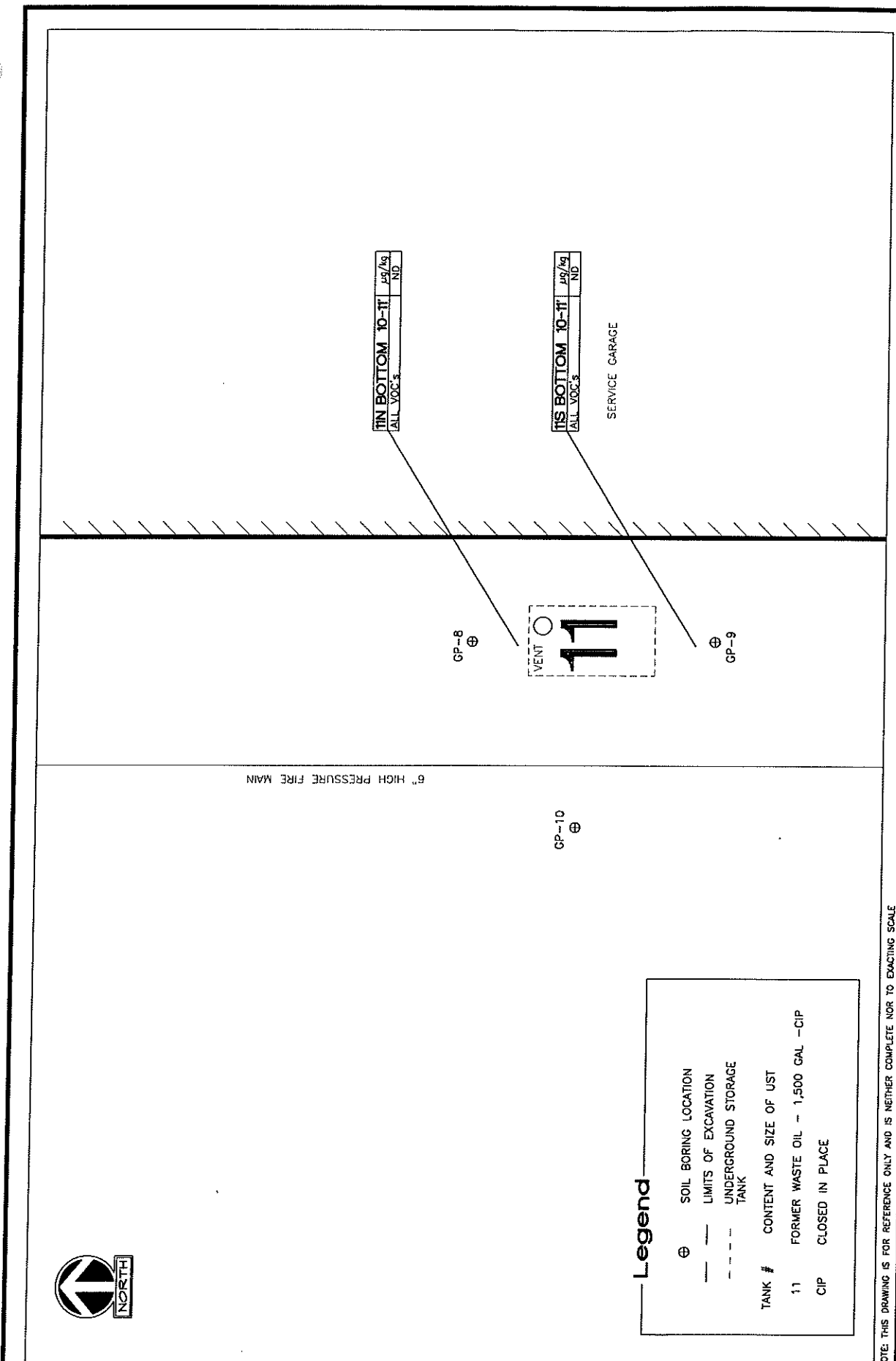
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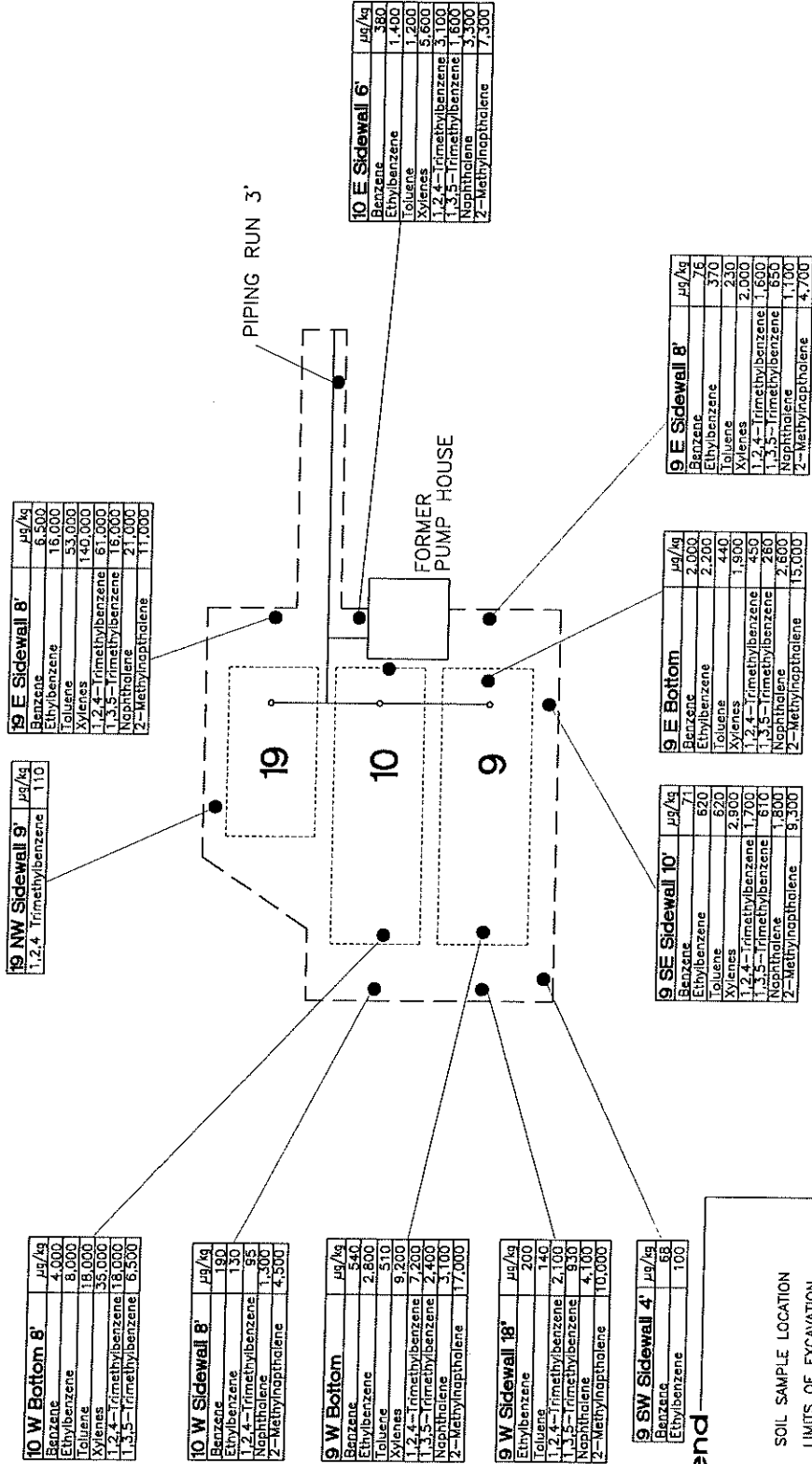
FIGURE 4
SAMPLE LOCATIONS FOR TANK NO. 11
COOLIDGE FACILITY
DETROIT DEPARTMENT OF TRANSPORTATION
14044 SCHAEFFER HWY.
DETROIT, MICHIGAN



TIN BOTTOM 10-11	µg/kg
ALL VOC'S	ND

TIS BOTTOM 10-11	µg/kg
ALL VOC'S	ND

6" HIGH PRESSURE FIRE MAIN



10 W Bottom 8'	µg/kg
Benzene	4,000
Ethylbenzene	8,000
Toluene	18,000
Xylenes	35,000
1,2,4-Trimethylbenzene	18,000
1,3,5-Trimethylbenzene	6,500

19 NW Sidewall 9'	µg/kg
1,2,4-Trimethylbenzene	110

19 E Sidewall 8'	µg/kg
Benzene	6,500
Ethylbenzene	16,000
Toluene	53,000
Xylenes	140,000
1,2,4-Trimethylbenzene	61,000
1,3,5-Trimethylbenzene	16,000
Naphthalene	21,000
2-Methylnaphthalene	11,000

10 W Sidewall 8'	µg/kg
Benzene	180
Ethylbenzene	130
1,2,4-Trimethylbenzene	95
Naphthalene	1,300
2-Methylnaphthalene	4,900

9 W Bottom	µg/kg
Benzene	540
Ethylbenzene	2,800
Toluene	510
Xylenes	9,200
1,2,4-Trimethylbenzene	7,200
1,3,5-Trimethylbenzene	2,400
Naphthalene	3,100
2-Methylnaphthalene	17,000

9 W Sidewall 18'	µg/kg
Ethylbenzene	200
Toluene	140
1,2,4-Trimethylbenzene	2,100
1,3,5-Trimethylbenzene	930
Naphthalene	4,100
2-Methylnaphthalene	10,000

9 SW Sidewall 4'	µg/kg
Benzene	68
Ethylbenzene	100

Legend

- SOIL SAMPLE LOCATION
- - - LIMITS OF EXCAVATION
- TANK

TANK # CONTENT AND SIZE OF UST

- 9 FORMER ENGINE OIL - 20,000 GAL
- 10 FORMER ENGINE OIL - 20,000 GAL
- 19 FORMER GASOLINE - 20,000 GAL

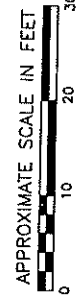
9 SE Sidewall 10'	µg/kg
Benzene	71
Ethylbenzene	620
Toluene	620
Xylenes	2,900
1,2,4-Trimethylbenzene	1,700
1,3,5-Trimethylbenzene	610
Naphthalene	1,800
2-Methylnaphthalene	9,300

9 E Bottom	µg/kg
Benzene	2,000
Ethylbenzene	2,200
Toluene	440
Xylenes	1,900
1,2,4-Trimethylbenzene	450
1,3,5-Trimethylbenzene	280
Naphthalene	2,600
2-Methylnaphthalene	15,000

9 E Sidewall 8'	µg/kg
Benzene	76
Ethylbenzene	370
Toluene	230
Xylenes	2,000
1,2,4-Trimethylbenzene	1,600
1,3,5-Trimethylbenzene	650
Naphthalene	1,100
2-Methylnaphthalene	4,700

10 E Sidewall 6'	µg/kg
Benzene	380
Ethylbenzene	1,400
Toluene	1,200
Xylenes	5,600
1,2,4-Trimethylbenzene	3,100
1,3,5-Trimethylbenzene	1,600
Naphthalene	3,300
2-Methylnaphthalene	7,300

FIGURE 5
SAMPLE LOCATIONS FOR TANK NO. 9, 10, AND 19
COOLIDGE FACILITY
DETROIT DEPARTMENT OF TRANSPORTATION
14044 SCHAEFFER HWY.
DETROIT, MICHIGAN



NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE



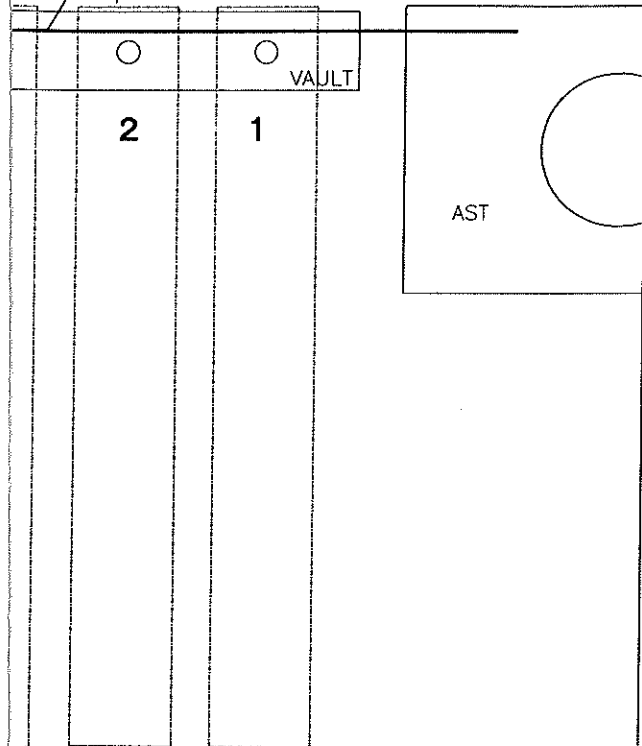


Legend

- PROPOSED SOIL BORING
- ⊕ PROPOSED SOIL BORING/
MONITOR WELL LOCATION
- UNDERGROUND STORAGE
TANK
- - - - UNDERGROUND STORAGE
TANK REMOVED

TANK #	CONTENT AND SIZE OF UST
1	FORMER AQUA DIESEL - 50,000 GAL-CIP
2	FORMER AQUA DIESEL - 50,000 GAL-CIP
3	FORMER AQUA DIESEL - 50,000 GAL-CIP
4	FORMER AQUA GASOLINE - 12,000 GAL-CIP
5	FORMER ENGINE OIL - 1,000 GAL-CIP
6	FORMER ENGINE OIL - 1,000 GAL-CIP
7	FORMER CONVERTER OIL - 1,000 GAL-CIP
8	FORMER DEXTRON - 1,000 GAL-CIP
12	FORMER GASOLINE - 12,000 GAL-REMOVED
13	FORMER AQUA SYSTEM - 500 GAL-REMOVED
14	FORMER AQUA SYSTEM - 500 GAL-REMOVED
16	FORMER AQUA SYSTEM - 500 GAL-REMOVED
17	FORMER AQUA SYSTEM - 500 GAL-REMOVED
18	FORMER AQUA SYSTEM - 1,000 GAL-REMOVED

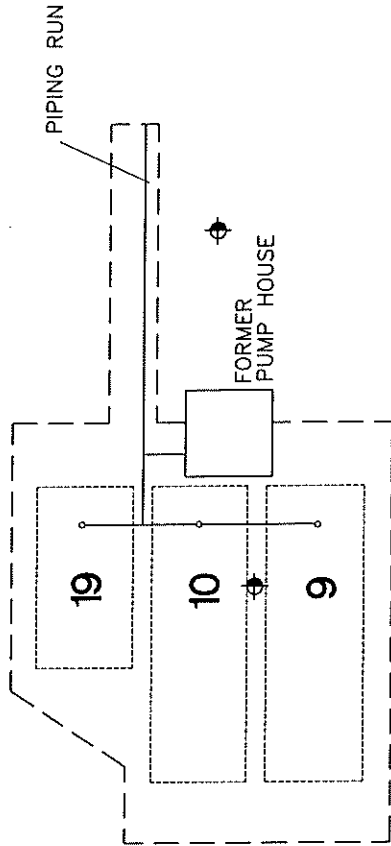
AST PIPING TO PUMP HOUSE



NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACT



FIGURE 6A
OIL BORING/MONITOR WELL LOCATIONS
BIT DEPARTMENT OF TRANSPORTATION
14044 SCHAFFER HIGHWAY
DETROIT, MICHIGAN



Legend

⊕ PROPOSED SOIL BORING/
MONITOR WELL LOCATION

--- LIMITS OF EXCAVATION
--- UNDERGROUND STORAGE
TANK

TANK # CONTENT AND SIZE OF UST

- 9 FORMER ENGINE OIL - 20,000 GAL
- 10 FORMER ENGINE OIL - 20,000 GAL
- 19 FORMER GASOLINE - 20,000 GAL

NOTE: THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE



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FIGURE 6B
PROPOSED SOIL BORING/MONITOR WELL LOCATIONS
COOLIDGE FACILITY
DETROIT DEPARTMENT OF TRANSPORTATION
14044 SCHAEFFER HWY.
DETROIT, MICHIGAN

TABLES

Table 1
Field Screening Results For Soil
Detroit Department of Transportation - Coolidge Facility
14044 Schaefer Hwy.
Detroit, Michigan

Sample ID	Collection Date	PID Reading* (ppmv)
GP-15 (10-12')	1/5/00	9
GP-15 (13-15')	1/5/00	1
GP-16 (7-8')	1/5/00	25
GP-16 (10-12')	1/5/00	6
GP-18 (6-7')	1/5/00	80
GP-18 (6-7') DUP	1/5/00	80
GP-18 (12-14')	1/5/00	5
GP-19 (5-7')	1/5/00	0
GP-19 (15-16')	1/5/00	0
GP-20 (7-8')	1/5/00	0
GP-20 (aqueous)	1/5/00	NA
5 BOTTOM (10-11')	12/30/99	40
5N SIDEWALL (4-6')	12/30/99	20
6 BOTTOM (9-11')	12/30/99	70
6N SIDEWALL (4-6')	12/30/99	70
7 BOTTOM (10-11')	12/30/99	140
7N SIDEWALL (2-3')	12/30/99	40
7N SIDEWALL (6-7')	12/30/99	120
8N BOTTOM (10-11')	1/5/00	30
8N SIDEWALL (2-3')	1/5/00	125
9E BOTTOM (14')	12/20/99	NA
9W BOTTOM (14')	12/20/99	NA
9E SIDEWALL (8')	12/20/99	NA
9W SIDEWALL (18")	12/20/99	NA
SE SIDEWALL (10')	12/20/99	NA
SW SIDEWALL (4')	12/20/99	NA
10E BOTTOM (14')	12/20/99	NA
10W BOTTOM (14')	12/20/99	NA
10E SIDEWALL (6')	12/20/99	NA
10W SIDEWALL (4')	12/20/99	NA
11S BOTTOM (11-12')	12/30/99	0
11S SIDEWALL (7-8')	12/30/99	0
11N BOTTOM (10-11')	12/30/99	0
11N SIDEWALL (5-6')	12/30/99	1
11W SIDEWALL (6-7')	12/30/99	0

Sample ID	Collection Date	PID Reading* (ppmv)
12 BOTTOM (aqueous)	12/21/99	NA
12S SIDEWALL (6')	12/21/99	70
12N SIDEWALL (6')	12/21/99	280
12E SIDEWALL (6')	12/21/99	200
12E SIDEWALL (6') DUP	12/21/99	200
12W SIDEWALL (6')	12/21/99	260
12SE SIDEWALL (4')	12/21/99	310
14S BOTTOM	12/29/99	30
14N BOTTOM	12/29/99	ND
14S SIDEWALL (3-4')	12/30/99	150
14W SIDEWALL (3-4')	12/30/99	180
15S BOTTOM	12/29/99	50
15N BOTTOM	12/29/99	3
16S BOTTOM	12/29/99	8
16N BOTTOM	12/29/99	90
16S SIDEWALL (4-6')	12/30/99	100
16N SIDEWALL (2-3')	12/30/99	NA
16N SIDEWALL (2-3') DUP	12/30/99	NA
17S BOTTOM	12/29/99	55
17N BOTTOM	12/29/99	75
18E BOTTOM	12/29/99	0
18W BOTTOM	12/29/99	1
18W BOTTOM DUP	12/29/99	1
18S SIDEWALL (6-8')	12/30/99	120
18N SIDEWALL (18")	12/30/99	70
19E BOTTOM (14')	12/23/99	NA
19W BOTTOM (14')	12/23/99	NA
19E SIDEWALL (8')	12/23/99	NA
19W SIDEWALL (8')	12/23/99	NA
19NE SIDEWALL (8.5')	12/23/99	NA
19NW SIDEWALL (9')	12/23/99	NA
PIPE RUN	12/21/99	NA
GP-11 (5-7')	1/5/00	0
GP-11 (9-10')	1/5/00	12
GP-12 (7-8')	1/5/00	NA
GP-12 (9-10')	1/5/00	NA
GP-13 (4-5')	1/5/00	0
GP-13 (7-8')	1/5/00	0

NA =Not analyzed.

* = Readings taken with an H-Nu Instruments, Inc. model number PL 101 photo-ionizer.

ppmv = parts per million volumetric.

Table 2a - Page 1 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Date Collected	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBLS (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBLS (NSIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBLS (NSIC) (µg/kg)	Commercial III Direct Contact RBLS (µg/kg)	SN SIDEWALL (GP-5) 4-6' (µg/kg) 12/30/99	5 BOTTOM (GP-5) 10-11' (µg/kg) 12/30/99	6N SIDEWALL (GP-6) 4-6' (µg/kg) 12/30/99	6 BOTTOM (GP-6) 9-11' (µg/kg) 12/30/99	7N SIDEWALL (GP-7) 2-3' (µg/kg) 12/30/99	7N SIDEWALL (GP-7) 6-7' (µg/kg) 12/30/99	7 BOTTOM (GP-7) 10-11' (µg/kg) 12/30/99	8 N END (GP-14) 2-3' (µg/kg) 12/30/99
PNAs - Method 8310														
2-Methylanthracene	NA	170,000	ID	330,000,000	230,000,000	1,000,000,000(D)	1,400	ND	8,100	2,000	490,000	1,400	3,100	170,000
Acenaphthene	NA	870,000	ID	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	NA	8,500	3,000,000	2,700,000	2,000,000	23,000,000	ND	ND	ND	ND	ND	ND	ND	2,900
Anthracene	NA	41,000	1,000,000,000(D)	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	15,000	ND	ND	ND
Benz(a)anthracene	NA	NLL	NLV	NLV	NLV	290,000	ND	ND	ND	ND	ND	ND	ND	1,100
Benz(b)fluoranthene	NA	NLL	ID	ID	ID	290,000	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a,h)fluoranthene	NA	NLL	NLV	NLV	NLV	23,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Benz(k)fluoranthene	NA	NLL	NLV	NLV	NLV	7,900,000	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	ID	29,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	NLV	29,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	NA	720,000	1,000,000,000(D)	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	ND	7,100	ND	ND	1,400
Indeno(1,2,3-c)pyrene	NA	890,000	NLV	NLV	150,000,000	760,000,000	ND	ND	ND	ND	11,000	ND	ND	4,500
Naphthalene	NA	50,000	77,000,000	77,000,000	59,000,000	230,000,000	ND	ND	ND	ND	230,000	380	1,300	82,000
Phenanthrene	NA	34,000	28,000,000	28,000,000	150,000	23,000,000	ND	ND	ND	ND	7,700	ND	ND	6,200
Pyrene	NA	470,000	1,000,000,000(D)	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	ND	20,000	ND	ND	8,700
LEAD - Method 6010														
Lead (B)	21,000	1,000 (B.M)	NLV	NLV	NLV	400,000	NR	NR	NR	NR	NR	NR	NR	NR
VOCs - Method 8260														
1,1-Dichloroethane	NA	50,000	790,000(C)	790,000(C)	36,000,000	790,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichloroethane	**	**	**	**	**	**	NR	NR	NR	NR	NR	NR	NR	NR
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	6,000,000(C)	31,000,000	6,000,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NA	100	8,400	8,400	45,000	400,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NA	1,500	140,000(C)	140,000(C)	11,000,000	140,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	NA	16,000	250,000(C)	250,000(C)	3,300,000	250,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
Xylenes	NA	5,600	150,000(C)	150,000(C)	54,000,000	150,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	110,000(C)	25,000,000	110,000(C)	NR	NR	NR	NR	NR	NR	NR	NR
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	94,000(C)	19,000,000	94,000(C)	780	ND	7,700	5,600	93,000	210	1,800	130,000
Naphthalene	NA	50,000	77,000,000	77,000,000	59,000,000	230,000,000	NR	NR	NR	NR	NR	NR	NR	NR
2-Methylnaphthalene	NA	170,000	ID	ID	ID	230,000,000	NR	NR	NR	NR	NR	NR	NR	NR

Background, as defined in Rule 239 5701(c), may be substituted if higher than cleanup criterion. DeCalculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). GSI value is pH or water hardness dependent. MeCalculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. NR=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to be found in soil. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 2 of 8
 Soil Analytical Data
 FNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Date Collected	Statewide Background Levels (ug/kg)	Industrial and Commercial Drinking Water Protection RBLS (ug/kg)	Soil Volatilization to Indoor Air Inhalation RBLS (VSHIC) (ug/kg)	Infinite Source Volatile Soil Inhalation RBLS (VSHIC) (ug/kg)	Commercial III Direct Contact RBLS (ug/kg)	8 N END (GP-14) 10-11' (ug/kg)	9E BOTTOM 14' (ug/kg)	9W BOTTOM 14' (ug/kg)	9E SIDEWALL 8' (ug/kg)	9W SIDEWALL 18" (ug/kg)	9SE SIDEWALL 10' (ug/kg)	9SW SIDEWALL 4' (ug/kg)	10E BOTTOM 14' (ug/kg)
FNAs - Method 8310														
2-Methylaphthalene	NA	170,000	ID	ID	230,000,000	1,000,000,000(D)	1,100	ND	ND	650	5,800	ND	ND	ND
Aceaphenanthrene	NA	870,000	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND	ND
Aceaphenanthrene	NA	8,500	8,500	3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	NA	41,000	41,000	1,000,000,000(D)	1,000,000,000(D)	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLL	NLV	NLV	290,000	ND	ND	ND	ND	1,400	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLL	NLV	NLV	29,000	ND	ND	ND	ND	1,400	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	ID	290,000	ND	ND	ND	1,200	ND	ND	ND	ND
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	NLV	23,000,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	NLV	2,900,000	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	NA	NLL	ID	ID	ID	29,000,000	ND	ND	ND	ND	1,200	ND	ND	ND
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	NA	720,000	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	630	ND	ND	ND	ND
Fluorene	NA	890,000	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	830	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	NLV	290,000	ND	ND	ND	470	2,200	ND	ND	ND
Naphthalene	NA	30,000	30,000	77,000,000	59,000,000	230,000,000	590	ND	ND	2,200	3,800	ND	ND	ND
Phenanthrene	NA	34,000	34,000	28,000,000	150,000	23,000,000	ND	ND	ND	2,200	2,200	ND	ND	ND
Pyrene	NA	470,000	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	ND	3,800	ND	ND	ND
LEADS - Method 6010														
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	NLV	400,000	NR	8,100	6,900	7,700	11,000	11,000	7,300	9,300
VOCs - Method 8260														
1,1-Dichloroethane	NA	50,000	50,000	790,000(C)	36,000,000	790,000(C)	NR	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NA	800	800	6,000,000(C)	31,000,000	6,000,000(C)	NR	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	100	100	8,400	45,000	400,000(C)	NR	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	1,500	1,500	140,000(C)	11,000,000	140,000(C)	NR	2,000	2,000	76	76	71	68	ND
Ethylbenzene	NA	16,000	16,000	230,000(C)	3,300,000	250,000(C)	NR	440	440	370	200	620	100	ND
Toluene	NA	5,600	5,600	150,000(C)	54,000,000	150,000(C)	NR	1,900	1,900	230	140	620	ND	ND
Xylenes	NA	2,100	2,100	110,000(C)	25,000,000	110,000(C)	NR	450	450	2,000	2,000	2,900	2,900	ND
1,2,4-Trimethylbenzene	NA	1,800	1,800	94,000(C)	19,000,000	94,000(C)	ND	260	260	1,600	2,100	1,700	1,700	ND
1,3,5-Trimethylbenzene	NA	50,000	50,000	77,000,000	59,000,000	230,000,000	NR	2,600	2,600	650	930	610	610	ND
Naphthalene	NA	170,000	170,000	ID	ID	230,000,000	NR	15,000	17,000	4,700	10,000	1,800	1,800	ND
2-Methylaphthalene	NA	170,000	170,000	ID	ID	230,000,000	NR	15,000	17,000	4,700	10,000	1,800	1,800	ND

B=background, as defined in Rule 209.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSJ value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSJ criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for CsM, not applicable. NLL=Chemical is not likely to reach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 3 of 8
 Soil Analytical Data
 PNAS, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (ug/kg)	Industrial and Commercial Drinking Water Protection RBLS (ug/kg)	Soil Volatilization to Indoor Air Inhalation RBLS (VSIUC) (ug/kg)	Infinite Source Volatile Soil Inhalation RBLS (VSIUC) (ug/kg)	Commercial III Direct Contact RBLS (ug/kg)	10W BOTTOM 14" (ug/kg)	10E SIDEWALL 6' (ug/kg)	10W SIDEWALL 8' (ug/kg)	PIPE RUN 3" (ug/kg)	12S SIDEWALL 6' (ug/kg)	12N SIDEWALL 6' (ug/kg)	12E SIDEWALL 6' (ug/kg)	12E SIDEWALL 6' DUP (ug/kg)
PNAS - Method 8310													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	480	1,600	ND	15,000	NR	NR	NR	NR
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	17,000	NR	NR	NR	NR
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	NR	NR	NR	NR
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	5,300	NR	NR	NR	NR
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	11,000	NR	NR	NR	NR
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	19,000	NR	NR	NR	NR
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000,000	ND	ND	ND	3,300	NR	NR	NR	NR
Benzo(g,h)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	4,900	NR	NR	NR	NR
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	29,000,000	ND	ND	ND	8,400	NR	NR	NR	NR
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	2,800	NR	NR	NR	NR
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	2,800	NR	NR	NR	NR
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	4,900	NR	NR	NR	NR
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	2,100	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	710	1,500	ND	12,000	NR	NR	NR	NR
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	410	ND	4,900	NR	NR	NR	NR
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	ND	11,000	NR	NR	NR	NR
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	410	ND	16,000	NR	NR	NR	NR
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	71,000	59,000	7,200	39,000	6,200	18,000	3,900	NR
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000	790,000(C)	35,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	100	8,400	45,000	400,000(C)	4,000	380	190	ND	190	15,000	2,400	3,100
Benzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	8,000	1,400	130	390	420	22,000	2,600	5,100
Ethylbenzene	NA	16,000	250,000(C)	3,300,000	250,000(C)	18,000	1,600	160	160	330	3,100	140	410
Toluene	NA	5,600	150,000(C)	54,000,000	150,000(C)	35,000	5,600	550	650	2,600	130,000	5,400	19,000
Xylenes	NA	2,100	110,000(C)	25,000,000	110,000(C)	18,000	3,100	95	860	3,900	140,000	5,100	19,000
1,2,4-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	6,500	1,600	380	380	1,500	49,000	1,600	7,100
1,3,5-Trimethylbenzene	NA	50,000	77,000,000	59,000,000	230,000,000	6,500	3,300	510	510	1,100	220,000	11,000	9,300
Naphthalene	NA	170,000	ID	ID	230,000,000	6,100	7,300	4,500	2,100	2,400	450,000	5,300	5,900

B=Background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Cs-137, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analyst not requested.

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 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Date Collected	Statewide Default Background Levels (ug/kg)	Industrial and Commercial Drinking Water Protection RBLS (ug/kg)	Soil Volatilization to Indoor Air Inhalation RBSL (VSHIC) (ug/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSHIC) (ug/kg)	Commercial III Direct Contact RBSLs (ug/kg)	12W SIDEWALL (ug/kg)	12SE SIDEWALL (ug/kg)	13S BOTTOM (ug/kg)	13S SIDEWALL (GP-2) 3-4' (ug/kg)	13W SIDEWALL (GP-1) 3-4' (ug/kg)	14S BOTTOM (ug/kg)	14N BOTTOM (ug/kg)
PNAs - Method 8310													
2-Methylnaphthalene		NA	170,000	ID	ID	230,000,000	NR	NR	ND	32,000	140,000	ND	ND
Acenaphthene		NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	NR	NR	ND	ND	ND	ND	ND
Acenaphthylene		NA	8,500	3,000,000	2,700,000	23,000,000	NR	NR	ND	ND	ND	ND	ND
Anthracene		NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	NR	NR	ND	830	1,400	ND	ND
Benz(a)anthracene		NA	NLL	NLV	NLV	290,000	NR	NR	ND	ND	470	ND	ND
Benz(b)fluoranthene		NA	NLL	NLV	NLV	29,000	NR	NR	ND	990	ND	ND	ND
Benz(g,h)perylene		NA	NLL	ID	ID	290,000	NR	NR	ND	ND	ND	ND	ND
Benzofluoranthene		NA	NLL	NLV	NLV	23,000,000	NR	NR	ND	ND	ND	ND	ND
Chrysene		NA	NLL	NLV	NLV	2,900,000	NR	NR	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene		NA	NLL	ID	ID	29,000,000	NR	NR	ND	ND	ND	ND	ND
Fluoranthene		NA	NLL	NLV	NLV	29,000	NR	NR	ND	ND	ND	ND	ND
Fluorene		NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	NR	NR	ND	ND	920	ND	ND
Indeno(1,2,3-cd)pyrene		NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	NR	NR	ND	520	4,700	ND	ND
Naphthalene		NA	50,000	NLV	NLV	290,000	NR	NR	ND	ND	ND	ND	ND
Theranthrene		NA	34,000	77,000,000	59,000,000	230,000,000	NR	NR	ND	9,200	59,000	ND	ND
Pyrene		NA	470,000	28,000,000	150,000	23,000,000	NR	NR	ND	940	8,800	ND	ND
METALS - Method 6010													
Lead (B)		21,000	1,000 (B.M)	NLV	NLV	400,000	89,000	9,300	4,800	2,000	2,700	8,000	5,400
VOCs - Method 8260													
1,1-Dichloroethane		NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane		NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)		NA	100	8,400	45,000	400,000(C)	ND	ND	ND	9,300	920	ND	ND
Benzene		NA	1,500	140,000(C)	11,000,000	140,000(C)	13,000	16,000	ND	11,000	6,000	ND	ND
Ethylbenzene		NA	16,000	250,000(C)	3,300,000	250,000(C)	4,800	13,000	ND	250	94	ND	ND
Toluene		NA	5,600	150,000(C)	54,000,000	150,000(C)	150,000	47,000	ND	17,000	1,600	ND	ND
Xylenes		NA	2,100	110,000(C)	25,000,000	110,000(C)	180,000	39,000	ND	47,000	7,400	95	220
1,2,4-Trimethylbenzene		NA	1,800	94,000(C)	19,000,000	94,000(C)	69,000	21,000	ND	14,000	3,300	ND	ND
1,3,5-Trimethylbenzene		NA	50,000	77,000,000	59,000,000	230,000,000	110,000	27,000	ND	65,000	35,000	3,800	ND
Naphthalene		NA	170,000	ID	ID	230,000,000	320,000	21,000	ND	200,000	12,000	2,700	ND

B=background, as defined in Rule 293.5701(c), may be substituted if higher than cleanup criterion. De=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=CSI value is pH or water hardness dependent. Me=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion default is the MDL. X=The CSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Cs-137, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 5 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (ug/kg)	Industrial and Commercial Drinking Water Protection RBSLs (ug/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSHIC) (ug/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSHIC) (ug/kg)	Commercial III Direct Contact RBSLs (ug/kg)	16S BOTTOM 8' (ug/kg)	16N BOTTOM 8' (ug/kg)	16S SIDEWALL (GF-3) 4-6' (ug/kg)	16N SIDEWALL (HA-1) 2-3' (ug/kg)	16N SIDEWALL (HA-1) 2-3' DUP (ug/kg)	17S BOTTOM 8' (ug/kg)	17N BOTTOM 8' (ug/kg)	18E BOTTOM 8' (ug/kg)
Date Collected													
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	53,000	32,000	NR	490	1,200	ND
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	NR	ND	ND	ND
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	440	NR	NR	ND	ND	ND
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	1,200	NR	NR	ND	ND	ND
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	480	NR	ND	ND	ND
Benzo(a)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	NR	NR	ND	ND	ND
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	NR	NR	ND	ND	ND
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	NR	NR	ND	ND	ND
Chrysene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	NR	NR	ND	ND	ND
Dibenz(a,h)anthracene	NA	NLL	ID	ID	29,000	ND	ND	ND	NR	NR	ND	ND	ND
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	3,700	1,800	NR	ND	ND	ND
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	2,000	1,800	NR	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NA	50,000	77,000,000	59,000,000	290,000	ND	ND	ND	NR	NR	ND	ND	ND
Naphthalene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	13,000	14,000	NR	ND	640	ND
Phenanthrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	5,900	4,500	NR	ND	ND	ND
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	1,500	3,200	NR	ND	ND	ND
METALS - Method 6010													
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	5,400	5,300	2,900	4,200	NR	5,400	6,700	5,200
VOCs - Method 8260													
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100	8,400	45,000	400,000(C)	ND	ND	5,800	ND	ND	ND	ND	ND
Ethylbenzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	2,800	ND	ND	ND	ND	ND
Toluene	NA	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	2,900	ND	ND	ND	ND	ND
Xylenes	NA	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	460	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	75	590	2,400	12,000	13,000	170	130	ND
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	ND	210	590	31,000	34,000	530	370	ND
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	2,700	7,700	48,000	25,000	45,000	6,500	7,600	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	16,000	7,100	290,000	160,000	130,000	13,000	9,200	ND

Background, as defined in Rule 295.570(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csai, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 6 of 8
 Soil Analytical Data
 PNAs, Lead and YOCs
 14044 Schaefer Hwy. - Cooling Facility
 Detroit, Michigan

Chemical	Date Collected	Statewide Default Background Levels (ug/kg)	Industrial and Commercial Drinking Water Protection RBSLs (ug/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSTIC) (ug/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSTIC) (ug/kg)	Commercial III Direct Contact RBSLs (ug/kg)	18W BOTTOM 8' (ug/kg)	18W BOTTOM DUP (ug/kg)	18S SIDEWALL (GP-4) 6-8' (ug/kg)	18N SIDEWALL (HA-2) 18" (ug/kg)	19E BOTTOM 14' (ug/kg)	19E SIDEWALL 8' (ug/kg)	19W BOTTOM 14' (ug/kg)	19W SIDEWALL 8' (ug/kg)
PNAs - Method 8310														
2-Methylnaphthalene		NA	170,000	ID	230,000,000	ND	NR	NR	2,800	ND	ND	3,400	ND	ND
Acenaphthene		NA	870,000	ID	350,000,000	ND	NR	NR	ND	ND	ND	5,600	ND	ND
Acenaphthylene		NA	8,500	ID	3,000,000	ND	NR	NR	ND	ND	ND	5,300	ND	ND
Anthracene		NA	41,000	ID	1,000,000,000(D)	ND	NR	NR	ND	ND	ND	ND	ND	ND
Benzofluoranthene		NA	NLL	NLV	290,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Benzofluoranthene		NA	NLL	NLV	290,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Benzofluoranthene		NA	NLL	NLV	290,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Benzofluoranthene		NA	NLL	NLV	290,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Chrysene		NA	NLL	ID	29,000,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene		NA	NLL	NLV	29,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Fluoranthene		NA	720,000	ID	880,000,000	ND	NR	NR	ND	510	ND	ND	ND	ND
Fluorene		NA	890,000	ID	1,000,000,000(D)	ND	NR	NR	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		NA	50,000	NLV	77,000,000	ND	NR	NR	ND	ND	ND	ND	ND	ND
Naphthalene		NA	34,000	NLV	28,000,000	ND	NR	NR	ND	ND	ND	3,200	ND	ND
Phenanthrene		NA	470,000	ID	1,000,000,000(D)	ND	NR	NR	390	ND	ND	ND	ND	ND
Pyrene		NA	470,000	ID	770,000,000	ND	NR	NR	ND	ND	ND	420	ND	ND
LEAD - Method 8010														
Lead (Pb)		21,000	1,000 (B.M)	NLV	400,000	ND	4,100	NR	2,700	14,000	5,200	19,000	7,600	5,900
YOCs - Method 8260														
1,1-Dichloroethane		NA	50,000	**	790,000(C)	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane		**	800	**	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)		NA	100	8,400	400,000(C)	ND	ND	ND	120	ND	ND	6,500	ND	ND
Benzene		NA	1,500	140,000(C)	140,000(C)	ND	ND	ND	460	ND	ND	16,000	ND	ND
Ethylbenzene		NA	16,000	250,000(C)	250,000(C)	ND	ND	ND	ND	ND	ND	53,000	ND	ND
Toluene		NA	5,600	150,000(C)	150,000(C)	ND	ND	ND	120	ND	ND	140,000	ND	ND
Xylenes		NA	2,100	94,000(C)	94,000(C)	ND	ND	ND	180	ND	ND	16,000	ND	ND
1,2,4-Trimethylbenzene		NA	1,800	77,000,000	230,000,000	ND	ND	ND	13,000	35,000	ND	21,000	ND	ND
1,3,5-Trimethylbenzene		NA	50,000	77,000,000	230,000,000	ND	ND	ND	240,000	240,000	ND	11,000	ND	ND
Naphthalene		NA	170,000	ID	230,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene		NA	170,000	ID	230,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND

B=Background, as defined in Rule 289.5701(6), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GS1 value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GS1 criterion shown is not protective for surface water that is used as a drinking water source. D=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Cs-137, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

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 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Date Collected											
	Statewide Default Background Levels (ug/Lg)	Industrial and Commercial Drinking Water Protection RBLS (ug/Lg)	Soil Volatilization to Indoor Air Inhalation RBLS (VSI/C) (ug/Lg)	Infomite Source Volatile Soil Inhalation RBLS (VSI/C) (ug/Lg)	Commercial III Direct Contact RBLS (ug/Lg)	19NE SIDEWALL 8.5' (ug/Lg)	19NW SIDEWALL 9' (ug/Lg)	GP-15 10-12' (ug/Lg)	GP-15 13-15' (ug/Lg)	GP-16 7-8' (ug/Lg)	GP-16 10-12' (ug/Lg)	GP-18 6-7' DTP (ug/Lg)
PNAs - Method 8310												
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	300	ND	ND	ND	ND	ND	ND
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	NR
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	ND	ND	NR
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	ND	ND	NR
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	ND	ND	NR
Benzo(b)fluoranthene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	NR
Benzo(k)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	ND	ND	ND	ND	NR
Benzo(g,h)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	ND	ND	ND	ND	NR
Benzo(e)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	ND	ND	ND	ND	NR
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	ND	ND	ND	ND	NR
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	ND	ND	ND	ND	NR
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	ND	ND	ND	ND	NR
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	ND	ND	ND	ND	NR
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	ND	ND	ND	ND	NR
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	200	ND	ND	ND	ND	ND	NR
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	ND	ND	ND	ND	NR
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	ND	ND	ND	ND	NR
METALS - Method 6010												
Lead (P)	21,000	1,000 (B,M)	NLV	NLV	400,000	4,700	5,900	2,100	2,200	2,700	2,300	1,900
VOCs - Method 8260												
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromethane	**	**	**	**	**	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	100	140,000(C)	45,000	400,000(C)	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	NA	1,500	250,000(C)	11,000,000	140,000(C)	ND	ND	ND	ND	ND	ND	160
Toluene	NA	16,000	150,000(C)	3,300,000	250,000(C)	ND	ND	ND	ND	ND	ND	1,400
Xylenes	NA	5,600	110,000(C)	54,000,000	150,000(C)	ND	ND	ND	ND	ND	ND	560
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	ND	ND	ND	ND	ND	ND	310
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	ND	ND	ND	ND	ND	ND	120
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	ND	ND	ND	ND	ND

Background, as defined in Rule 209.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=CSI value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2a - Page 8 of 8
 Soil Analytical Data
 PNAs, Lead and VOCs
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	GP-18 12-14' (µg/kg)	GP-19 5-7' (µg/kg)	GP-19 15-16' (µg/kg)	GP-20 7-8' (µg/kg)	MDL (µg/kg)
Date Collected										
PNAs - Method 8310										
2-Methylnaphthalene	NA	170,000 ID	ID	ID	230,000,000 ND	ND	ND	ND	ND	330
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	ND	ND	33
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	ND	ND	33
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	ND	ND	33
Benz(a)anthracene	NA	NLL	NLV	NLV	290,000 ND	ND	ND	ND	ND	33
Benz(a)pyrene	NA	NLL	NLV	NLV	29,000 ND	ND	ND	ND	ND	33
Benz(b)fluoranthene	NA	NLL	ID	ID	290,000 ND	ND	ND	ND	ND	33
Benz(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000 ND	ND	ND	ND	ND	33
Benz(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000 ND	ND	ND	ND	ND	33
Chrysene	NA	NLL	ID	ID	29,000,000 ND	ND	ND	ND	ND	33
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000 ND	ND	ND	ND	ND	33
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000 ND	ND	ND	ND	ND	33
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000 ND	ND	ND	ND	ND	33
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000 ND	ND	ND	ND	ND	33
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000 ND	ND	ND	ND	ND	33
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000 ND	ND	ND	ND	ND	33
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000 ND	ND	ND	ND	ND	33
METALS - Method 6010										
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	1,200	1,400	1,600	1,300	150
VOCs - Method 8260										
1,1-Dichloroethane	NA	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	ND	ND	50
1,2-Dibromoethane	**	**	**	**	**	ND	ND	ND	ND	50
Methyl tert-butyl ether (MTBE)	NA	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	ND	ND	250
Benzene	NA	100	8,400	45,000	400,000(C)	ND	ND	ND	ND	50
Ethylbenzene	NA	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	ND	ND	50
Toluene	NA	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	ND	ND	50
Xylenes	NA	5,600	150,000(C)	54,000,000	150,000(C)	58	58	58	58	150
1,2,4-Trimethylbenzene	NA	2,100	110,000(C)	25,000,000	110,000(C)	58	58	58	58	50
1,3,5-Trimethylbenzene	NA	1,800	94,000(C)	19,000,000	94,000(C)	ND	ND	ND	ND	50
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000 ND	ND	ND	ND	ND	250
2-Methylnaphthalene	NA	170,000 ID	ID	ID	230,000,000 ND	ND	ND	ND	ND	250

Background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D-Calculated criterion exceeds 100%, hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G-GSI value is pH or water hardness dependent. M-Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X-The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID-Inadequate data to develop criterion. IP-Development of criteria in process. NA-Criterion or value is not available or, as is the case for Cs-1, not applicable. NLL-Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 2b
Soil Analytical Data
Waste Oil UST
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	Date Collected		MDL (µg/kg)
					11S BOTTOM (GP-9) 11-12' (µg/kg)	11N BOTTOM (GP-8) 10-11' (µg/kg)	
YOCs - Method 8260							
1,1,1,2-Tetrachloroethane	26,000	65,000	190,000	980,000(C)	ND	ND	50
1,1,1-Trichloroethane	4,000	460,000(C)	4,500,000	460,000(C)	ND	ND	50
1,1,2,2-Tetrachloroethane	340	23,000	34,000	170,000	ND	ND	50
1,1,2-Trichloroethane	100	24,000	57,000	610,000	ND	ND	50
1,1-Dichloroethane	50,000	790,000(C)	36,000,000	790,000(C)	ND	ND	50
1,1-Dichloroethene	140	330	3,700	580,000(C)	ND	ND	50
1,1-Dichloropropene	**	**	**	**	ND	ND	50
1,2,3-Trichlorobenzene	**	**	**	**	ND	ND	50
1,2,3-Trichloropropane	2,400	ID	ID	830,000(C)	ND	ND	50
1,2,4-Trichlorobenzene	4,200	1,100,000(C)	34,000,000	1,100,000(C)	ND	ND	50
1,2,4-Trimethylbenzene	2,100	110,000(C)	25,000,000	110,000(C)	ND	ND	50
1,2-Dibromo-3-chloropropane	**	**	**	**	ND	ND	50
1,2-Dibromoethane	**	**	**	**	ND	ND	50
1,2-Dichlorobenzene	13,000	210,000(C)	46,000,000	210,000(C)	ND	ND	50
1,2-Dichloroethane	100	11,000	21,000	380,000	ND	ND	50
1,2-Dichloroethene, total	1,400	640,000(C)	37,000,000	640,000(C)	ND	ND	50
1,2-Dichloropropane	100	7,400	30,000	510,000	ND	ND	50
1,3,5-Trimethylbenzene	1,800	94,000(C)	19,000,000	94,000(C)	ND	ND	50
1,3-Dichlorobenzene	18,000	ID	ID	200,000(C)	ND	ND	50
1,3-Dichloropropane	**	**	**	**	ND	ND	50
1,4-Dichlorobenzene	1,700	100,000	260,000	1,400,000	ND	ND	50
2,2-Dichloropropane	**	**	**	**	ND	ND	50
2-Butanone (MEK)	760,000	27,000,000(C)	35,000,000	27,000,000(C)	ND	ND	250
2-Chloroethyl vinyl ether	ID	ID	ID	ID	ND	ND	50
2-Chlorotoluene	9,300	500,000(C)	ID	500,000(C)	ND	ND	50
2-Hexanone	58,000	1,800,000	ID	2,500,000(C)	ND	ND	250
4-Chlorotoluene	**	**	**	**	ND	ND	50
4-Isopropyltoluene	**	**	**	**	ND	ND	50
4-Methyl-2-pentanone (MIBK)	100,000	2,700,000(C)	53,000,000	2,700,000(C)	ND	ND	100
Acetone	42,000	110,000,000(C)	160,000,000	100,000,000	ND	ND	250
Acrylonitrile	130	35,000	17,000	64,000	ND	ND	250
Benzene	100	8,400	45,000	400,000(C)	ND	ND	50
bis(2-Chloroethyl)ether	330(M)	44,000	13,000	32,000	ND	ND	50
Bromobenzene	1,500	580,000	540,000	760,000(C)	ND	ND	50
Bromodichloromethane	2,000(W)	6,400	31,000	560,000	ND	ND	50
Bromoform	2,000(W)	770,000	3,100,000	870,000(C)	ND	ND	50
Bromomethane	580	1,600	13,000	1,500,000	ND	ND	50
Carbon disulfide	46,000	140,000	1,600,000	280,000(C)	ND	ND	100
Carbon tetrachloride	100	990	12,000	270,000	ND	ND	50
Chlorobenzene	2,000	220,000	920,000	260,000(C)	ND	ND	50
Chloroethane	18,000	970,000(C)	36,000,000	970,000(C)	ND	ND	50
Chloroform	2,000(W)	38,000	150,000	1,500,000(C)	ND	ND	50
Chloromethane	5,400	12,000	140,000	1,100,000(C)	ND	ND	50
cis-1,2-Dichloroethene	1,400	640,000(C)	47,000,000	640,000(C)	ND	ND	50
cis-1,3-Dichloropropene (J)	380	420	4,600	190,000	ND	ND	50
Dibromochloromethane	2,000(W)	21,000	80,000	410,000	ND	ND	50
Dibromomethane	4,600	ID	ID	2,000,000(C)	ND	ND	50
Dichlorodifluoromethane	270,000	1,000,000(C)	63,000,000	1,000,000(C)	ND	ND	50
Ethylbenzene	1,500	140,000(C)	11,000,000	140,000(C)	ND	ND	50
Freon-113	**	**	**	**	ND	ND	50
Hexachlorobutadiene	77,000	350,000(C)	460,000	350,000(C)	ND	ND	50
Iodomethane	**	**	**	**	ND	ND	250
Isopropylbenzene	260,000	390,000(C)	2,000,000	390,000(C)	ND	ND	50
m,p-Xylene	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	100
Methyl tert-butyl ether (MTBE)	800	6,000,000(C)	31,000,000	6,000,000(C)	ND	ND	250
Methylene chloride	100	240,000	700,000	2,300,000(C)	ND	ND	100
n-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
n-Propylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Naphthalene	50,000	77,000,000	59,000,000	230,000,000	ND	ND	250
sec-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Styrene	2,700	520,000(C)	3,200,000	520,000(C)	ND	ND	50
tert-Butylbenzene	4,600	ID	ID	10,000,000(C)	ND	ND	50
Tetrachloroethene	100	60,000	600,000	88,000(C)	ND	ND	50
Toluene	16,000	250,000(C)	3,300,000	250,000(C)	ND	ND	50
Xylenes, total	5,600	150,000(C)	54,000,000	150,000(C)	ND	ND	150

Table 2b (continued)
Soil Analytical Data
Waste Oil UST
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Statewide Default Background Levels (µg/kg)	Industrial and Commercial Drinking Water Protection RBSLs (µg/kg)	Soil Volatilization to Indoor Air Inhalation RBSLs (VSIIC) (µg/kg)	Infinite Source Volatile Soil Inhalation RBSLs (VSIC) (µg/kg)	Commercial III Direct Contact RBSLs (µg/kg)	11S BOTTOM (GP-9) 11-12' (µg/kg)	11N BOTTOM (GP-8) 10-11' (µg/kg)	MDL (µg/kg)
Date Collected						12/30/99	12/30/99	
PNAs - Method 8310								
2-Methylnaphthalene	NA	170,000	ID	ID	230,000,000	ND	ND	330
Acenaphthene	NA	870,000	350,000,000	97,000,000	1,000,000,000(D)	ND	ND	330
Acenaphthylene	NA	8,500	3,000,000	2,700,000	23,000,000	ND	ND	330
Anthracene	NA	41,000	1,000,000,000(D)	1,600,000,000	1,000,000,000(D)	ND	ND	330
Benzo(a)anthracene	NA	NLL	NLV	NLV	290,000	ND	ND	330
Benzo(a)pyrene	NA	NLL	NLV	NLV	29,000	ND	ND	330
Benzo(b)fluoranthene	NA	NLL	ID	ID	290,000	ND	ND	330
Benzo(g,h,i)perylene	NA	NLL	NLV	NLV	23,000,000	ND	ND	330
Benzo(k)fluoranthene	NA	NLL	NLV	NLV	2,900,000	ND	ND	330
Chrysene	NA	NLL	ID	ID	29,000,000	ND	ND	330
Dibenz(a,h)anthracene	NA	NLL	NLV	NLV	29,000	ND	ND	330
Fluoranthene	NA	720,000	1,000,000,000(D)	880,000,000	760,000,000	ND	ND	330
Fluorene	NA	890,000	1,000,000,000(D)	150,000,000	760,000,000	ND	ND	330
Indeno(1,2,3-cd)pyrene	NA	NLL	NLV	NLV	290,000	ND	ND	330
Naphthalene	NA	50,000	77,000,000	59,000,000	230,000,000	ND	ND	330
Phenanthrene	NA	34,000	28,000,000	150,000	23,000,000	ND	ND	330
Pyrene	NA	470,000	1,000,000,000(D)	770,000,000	470,000,000	ND	ND	330
METALS - Method 6010								
Cadmium	1,200	6,000	NLV	NLV	3,200,000	75	57	13
Chromium (B)	18,000	30,000	NLV	NLV	30,000,000	13,000	5,100	1,300
Lead (B)	21,000	1,000 (B,M)	NLV	NLV	400,000	3,200	2,600	2,600
PCBs - Method 8082								
PCBs		J(T)	16,000,000	820,000	(T)	ND	ND	330

B=background, as defined in Rule 299.5701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%; hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLL=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. T=Refer to the Toxic Substances Control Act (TSCA), 40 CFR 761, Subparts D and G, as amended to determine the applicability of TSCA cleanup standards.

Table 3
 Comparison Table For Soil
 14044 Schaefer Hwy. - Coolidge Facility
 Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ug/kg)	Applicable Criterion (ug/kg)	Exposure Code	Criterion Exceeded? (Yes or No)
FNAs						
2-Methylnaphthalene	7N Sidewall 2-3' Pipe Run 3'	12/30/99	480,000	170,000	A	Yes
Acenaphthene	19E Sidewall 8'	12/21/99	17,000	870,000	A	No
Acenaphthylene	7N Sidewall 2-3'	12/30/99	5,300	8,500	A	No
Anthracene	19E Sidewall 8'	12/21/99	15,000	41,000	A,B	No
Benzo(a)anthracene	Pipe Run 3'	12/30/99	11,000	290,000	C	No
Benzo(b)pyrene	Pipe Run 3'	12/21/99	19,000	29,000	C	No
Benzo(f)fluoranthene	Pipe Run 3'	12/21/99	3,300	290,000	C	No
Benzo(g,h,i)perylene	Pipe Run 3'	12/21/99	4,900	23,000,000	C	No
Benzo(k)fluoranthene	Pipe Run 3'	12/21/99	8,400	2,900,000	C	No
Chrysene	Pipe Run 3'	12/21/99	16,000	29,000,000	C	No
Dibenzo(a,h)anthracene	Pipe Run 3'	12/21/99	2,800	29,000	C	No
Fluoranthene	7N Sidewall 2-3'	12/30/99	7,100	720,000	A,B	No
Fluorene	7N Sidewall 2-3'	12/30/99	11,000	890,000	A,B	No
Indeno(1,2,3-cd)pyrene	Pipe Run 3'	12/21/99	12,000	290,000	C	No
Naphthalene	7N Sidewall 2-3'	12/30/99	230,000	50,000	A	Yes
Phenanthrene	Pipe Run 3'	12/21/99	11,000	34,000	A	No
Pyrene	7N Sidewall 2-3'	12/30/99	20,000	470,000	A,B	No
METALS						
Lead (B)	12W Sidewall 6'	12/21/99	89,000	21,000	A	Yes
VOCs						
1,1-Dichloroethane	NA	N/A	ND	30,000	A	No
1,2-Dibromoethane	NA	N/A	ND	**	**	No
Methyl tert-butyl ether (MTBE)	NA	N/A	ND	800	A	No
Benzene	12SE Sidewall 4'	12/21/99	16,000	100	A	Yes
Ethylbenzene	12W Sidewall 6'	12/21/99	24,000	1,500	A	Yes
Toluene	19E Sidewall 8'	12/23/99	53,000	16,000	A	Yes
Xylenes	12W Sidewall 6'	12/21/99	150,000	5,600	A	Yes
1,2,4-Trimethylbenzene	12W Sidewall 6'	12/21/99	180,000	2,100	A	Yes
1,3,5-Trimethylbenzene	12W Sidewall 6'	12/21/99	68,000	1,800	A	Yes
Naphthalene	12N Sidewall 6'	12/21/99	220,000	50,000	A	Yes
2-Methylnaphthalene	12N Sidewall 6'	12/21/99	450,000	170,000	A	Yes

Notes:

1. ND = Not detected at or above the MDEQ method detection limits.
2. NA = Not applicable
3. ** = Criterion not published to date by the MDEQ.
4. Exposure Codes:
 A = Industrial and Commercial Drinking Water Protection RBSL
 B = Commercial III Direct Contact
 C = Soil Volatilization to Indoor Air Inhalation RBSL
 D = Infinite Source Volatile Soil Inhalation RBSL (VSIC)
 E = Statewide Default Background Level
5. Shaded values represent exceedence of the most stringent applicable cleanup criteria.

Table 4
Groundwater Analytical Data
PNAs, Lead, VOCs
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Date Collected	Industrial & Commercial II, III, & IV Drinking Water (µg/l)	Industrial & Commercial II, III, & IV Ground Water Volatilization to Indoor Air (µg/l)	Ground Water Contact Criteria (µg/l)	Resulting RBSL (µg/l)	Tank 12 BOTTOM (µg/l)	GP-20 (µg/l)	MDL (µg/l)
PNAs - Method 8310								
2-Methylnaphthalene	750 ID			32,000		NR	6.8	5.0
Acenaphthene	3,800	4,200(S)		4,200(S)	3,800	NR	ND	5.0
Acenaphthylene	75	3,900(S)		3,900(S)	75	NR	ND	5.0
Anthracene	43(S)	43(S)		43(S)	43	NR	ND	5.0
Benzo(a)anthracene	5(M) NLV			5(M)	5	NR	ND	5.0
Benzo(a)pyrene	5(M) NLV			5(M)	5	NR	ND	5.0
Benzo(b)fluoranthene	5(M) ID			5(M)	5	NR	ND	5.0
Benzo(g,h,i)perylene	75 NLV			75	75	NR	ND	5.0
Benzo(k)fluoranthene	48 NLV			48	48	NR	ND	5.0
Chrysene	480 ID			5(M)	5	NR	ND	5.0
Dibenzo(a,h)anthracene	5(M) NLV			5(M)	5	NR	ND	5.0
Fluoranthene	210(S)	210(S)		210(S)	210	NR	ND	5.0
Fluorene	2,000(S)	2,000(S)		2,000(S)	2,000	NR	ND	5.0
Indeno(1,2,3-cd)pyrene	5(M) NLV			5(M)	5	NR	ND	5.0
Naphthalene	750	31,000(S)		31,000(S)	750	NR	7.2	5.0
Phenanthrene	75	1,000(S)		1,000(S)	75	NR	ND	5.0
Pyrene	140(S)	140(S)		140(S)	140	NR	ND	5.0
METALS - Method 6010								
Lead (β)	4(L) NLV	ID				4 ND	ND	3.0
VOCs - Method 8260								
1,1-Dichloroethane	2,500	5,100,000(S)		2,100,000	2,500	ND	ND	1.0
1,2-Dibromoethane	**	**		**	**	ND	ND	1.0
Methyl tert-butyl ether (MTBE)	40(E)	47,000,000(S)		650,000	40	39	ND	5.0
Benzene	5(A)	36,000		9,400	5	5,400	ND	1.0
Ethylbenzene	74(E)	170,000(S)		170,000(S)	74	250	ND	1.0
Toluene	790(E)	530,000(S)		530,000(S)	790	950	ND	1.0
Xylenes	280(E)	190,000(S)		190,000(S)	280	10,000	ND	3.0
1,2,4-Trimethylbenzene	63(E)	56,000(S)		160,000	63	11,000	ND	1.0
1,3,5-Trimethylbenzene	72(E)	61,000(S)		210,000	72	3,800	ND	1.0
Naphthalene	750	31,000(S)		31,000(S)	750	2,500	ND	5.0
2-Methylnaphthalene	750 ID			32,000	750	1,400	ND	5.0

B=Background, as defined in Rule 289.8701(c), may be substituted if higher than cleanup criterion. D=Calculated criterion exceeds 100%, hence, it is reduced to 100% (i.e., 1.0E+9 ppb). G=GSI value is pH or water hardness dependent. M=Calculated criterion is below the analytical method detection limit (MDL); therefore, the criterion defaults to the MDL. X=The GSI criterion shown is not protective for surface water that is used as a drinking water source. ID=Inadequate data to develop criterion. IP=Development of criteria in process. NA=Criterion or value is not available or, as is the case for Csat, not applicable. NLV=Chemical is not likely to leach under most soil conditions. NLV=Chemical is not likely to volatilize under most conditions. NR = Analysis not requested.

Table 5
Comparison Table For Groundwater
14044 Schaefer Hwy. - Coolidge Facility
Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ug/l)	Applicable Criterion (ug/l)	Exposure Code	Criterion Exceeded? (Yes or No)
PNAs						
2-Methylnaphthalene	GP-20	1/5/00	6.8	750	A	No
Acenaphthene	NA	NA	ND	3,800	A	No
Acenaphthylene	NA	NA	ND	75	A	No
Anthracene	NA	NA	ND	43	A,B,C	No
Benzo(a)anthracene	NA	NA	ND	5	A,C	No
Benzo(a)pyrene	NA	NA	ND	5	A,C	No
Benzo(b)fluoranthene	NA	NA	ND	5	A,C	No
Benzo(g,h,i)perylene	NA	NA	ND	5	C	No
Benzo(k)fluoranthene	NA	NA	ND	21	C	No
Chrysene	NA	NA	ND	5	C	No
Dibenz(a,h)anthracene	NA	NA	ND	5	A,C	No
Fluoranthene	NA	NA	ND	210	A,B,C	No
Fluorene	NA	NA	ND	2,000	A,B,C	No
Indeno(1,2,3-cd)pyrene	NA	NA	ND	5	A,C	No
Naphthalene	GP-20	1/5/00	7.2	750	A	No
Phenanthrene	NA	NA	ND	75	A	No
Pyrene	NA	NA	ND	140	A,B,C	No
METALS						
Lead (Pb)	NA	NA	ND	4	A	No
VOCS						
1,1-Dichloroethane	NA	NA	ND	2,500	A	No
1,2-Dichloroethane	NA	NA	ND	**	**	No
Methyl tert-butyl ether (MTBE)	Tank 12 Bottom	12/21/99	39	40	A	No
Benzene	Tank 12 Bottom	12/21/99	8,400	5	A	Yes
Ethylbenzene	Tank 12 Bottom	12/21/99	290	74	A	Yes
Toluene	Tank 12 Bottom	12/21/99	950	790	A	Yes
Xylenes	Tank 12 Bottom	12/21/99	10,000	280	A	Yes
1,2,4-Trimethylbenzene	Tank 12 Bottom	12/21/99	11,000	63	A	Yes
1,3,5-Trimethylbenzene	Tank 12 Bottom	12/21/99	3,800	72	A	Yes
Naphthalene	Tank 12 Bottom	12/21/99	2,500	750	A	Yes
2-Methylnaphthalene	Tank 12 Bottom	12/21/99	1,400	750	A	Yes

Notes:

1. ND = Not detected at or above the MDEC method detection limits.
2. NA = Not applicable
3. ** = Criterion not published to date by the MDEC.
4. Exposure Codes:
A = Industrial and Commercial Drinking Water Protection RBSL
B = Commercial III Direct Contact
C = Soil Volatilization to Indoor Air Inhalation RBSL
D = Infinite Source Volatile Soil Inhalation RBSL (VSIIC)
E = Statewide Default Background Level
5. Shaded values represent exceedence of the most stringent applicable cleanup criteria.

DATE ENTERED INTO DATABASE

10-23-03

IRONMENTAL QUALITY - REMEDIATION & REDEVELOPMENT DIVISION
926, Phone 517-373-9837, Fax 517-373-2637, E-mail DEQ-STD-TANKS@michigan.gov

STAFF INITIALS:

PB

**3 UNDERGROUND STORAGE TANK
MENTAL REPORT COVER SHEET**

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Quarterly Free Product Report

FACILITY NAME: Detroit Department of Transportation

FACILITY ID NUMBER: 00013464

STREET ADDRESS: 14044 Schaefer Hwy.

CITY: Detroit

STATE: MI

ZIP CODE: 48227

COUNTY: Wayne

DATE(S) RELEASE(S) DISCOVERED: 1. 12/20/99, 2. 12/20/99,
3. 12/30/99, and 4. 1/25/00

CONFIRMED RELEASE NUMBER(S): 1. C-1332-99,
2. C-1333-99, 3. C-1388-99, and 4. C-88-00

O/O NAME: City of Detroit

O/O STREET ADDRESS: 5300 Chrysler Service Drive

STATE: MI

ZIP CODE: 48211

CONTACT PERSON: Ken Ong

PHONE NUMBER: 313.833.3000

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel

2. Free product present:

a. Currently? YES NO

If YES, total gallons recovered since last report: 1.53

b. Previously? YES NO

If YES, total gallons recovered to date: 2.72

3. Have vapors been identified in any confined spaces (basement, sewers)? YES NO

4. Estimated depth to groundwater: 4 feet

Estimated groundwater flow direction: radial

5. Estimated distance and direction from point of release to nearest:

a. Private well: > 1/2 Mile

b. Municipal well: > 1/2 Mile

c. Surface water/wetland: Detroit River, > 1Mile South

6. Since last report: a. cubic yards of soil remediated: 1,520

b. gallons of groundwater remediated: 0

7. Totals to date: a. cubic yards of soil remediated: 6,260

b. gallons of groundwater remediated: 2,800

8. Michigan RBCA Site Classification (1-4): 1

9. Has contamination migrated off-site above Tier 1 Residential RBSLs YES NO

If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 YES NO

10. MTBE

Has MTBE been detected in any groundwater sample?

YES NO

Maximum MTBE concentration found in groundwater

39 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD).

on OCT. 10, 2003 (Date submitted REQUIRED)

Michael K. Jordan
CP Original Signature - (REQUIRED)

10/10/03
Date

Carolyn L. Paplin
PRINT QC PROJECT MANAGER'S NAME

Michael K. Jordan
PRINT CP's Name

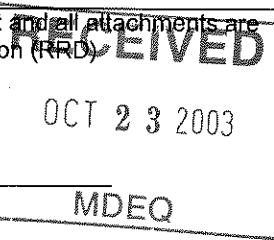
The Traverse Group, Inc.
NAME OF CONSULTING FIRM

CP ID: 895

QC ID: Z00179

ADDRESS 400 Monroe, Ste. 410, Detroit, MI 48226

PHONE: (313) 237-7777 FAX: (313) 237-2222





FREE PRODUCT RECOVERY STATUS REPORT

Authorized by Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451).

INSTRUCTIONS: Use the checklist below to ensure that all required information is provided in the Quarterly Free Product Recovery Status Report and submit WITH THE SUPPLEMENTAL REPORT COVER SHEET (EQP3849) to the appropriate Remediation & Redevelopment Division (RRD) district office. See form eqp4410 for a complete list of RRD district offices. Include this checklist as a table of contents. Each page of the report should be consecutively numbered. The location column should be completed with the appropriate page number for each item. Refer to Storage Tank Division Operational Memorandum No. 7 for further instructions. The reporting schedule may be altered at the discretion of the DEQ project manager based on site conditions.	FACILITY ID NUMBER: 00013464
	SITE NAME: Detroit Department of Transportation
	COUNTY: Wayne

Section	Table of Contents	Page
1.0	<u>ACTIVITIES COMPLETED</u> Section 21307(2) and (3)(b),(c)	
	A. Describe response activities completed to address free product.	1
2.0	<u>EXPOSURE PATHWAY EVALUATION</u> Section 21307(2)(a),(e) and (3)(c)	
	A. Identify and describe complete exposure pathways related to the free product.	2
	B. Provide a scaled site map, which shows the extent of free product including the utility corridors, buildings with or without basements, private wells, and sensitive habitat/surface water.	1, Figure 1
3.0	<u>DATA TREND ANALYSIS</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Provide a data summary table for all wells that contain free product. The table should include monitoring point location, date sampled, depth to water, free product thickness, and quantity of free product removed.	2, Table 1
	B. Provide graphs of static water elevations of a well near the free product plume versus free product apparent thickness compared over time. These graphs should be provided for all monitoring wells that have shown free product.	2, Graph 1
	C. Provide graphs of static water elevations versus groundwater concentration (e.g., Benzene, MTBE, and/or total BTEX) in select downgradient monitoring wells compared over time.	Graph 2
4.0	<u>FEASIBILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM</u> Section 21307(2)(c)(i),(ii) and (3)(c), and 21308a(1)(b)(xviii)	
	A. Provide initial and any subsequent bail-down test recovery data, analysis of which will determine the frequency of recovery. Refer to the references in Storage Tank Division Operational Memorandum No. 7 for sample calculations.	2
	B. Attach a schematic drawing of the free product recovery system.	2
5.0	<u>PERMITTING AND WASTE DISPOSAL TRACKING</u>	
	A. Provide copies of manifests or trip logs of liquid industrial waste or recycling per Section 21307(2)(c)(iii) and (3)(c), and 21308a(1)(b)(xvii)(H).	2
	B. Provide the air quality sampling results and calculations to meet Rule 290 of the Air Pollution Control Rules promulgated under Part 55, Air Pollution Control, of Act 451.	2
6.0	<u>OPERATION AND MAINTENANCE RECOVERY DATA</u> Section 21307(2)(c)(i),(ii) and (3)(c)	
	A. Describe any free product system design modifications, since last submittal.	2
	B. Provide the action levels that may trigger a change in remediation strategy.	2
7.0	<u>PROPOSED FUTURE ACTIONS</u> Section 21307(2)(e) and Section 21309a(2)(e)	
	A. Provide a schedule for free product evaluation and groundwater sampling.	3
	B. Provide a schedule outlining the next operation and maintenance activities.	3
	C. Provide the date of the next report.	3

**QUARTERLY FREE PRODUCT REPORT
DETROIT DEPARTMENT OF TRANSPORTATION
COOLIDGE FACILITY NO. 00013464
14044 SCHAEFER HWY, DETROIT, MICHIGAN**

FREE PRODUCT DISCOVERY, IMMEDIATE RESPONSE, AND REPORTING

Free Product Discovery

During a groundwater sampling event conducted on April 16, 2003, free product was discovered in monitor well MW-15 (refer to the attached Site Sketch for location) at the site.

Immediate Response Activities

Approximately 1.08 inches of free product thickness was measured and 0.05 gallons of free product were removed from MW-15 (refer to Table 1 for free product elevation data and removal quantities). The free product was removed from MW-15 by hand bailing using a disposable bailer and containerized in a 55-gallon steel DOT approved drum that was properly labeled and stored on-site. Existing monitor wells on- and off-site were gauged during the sampling event and free product was not present in any other monitor wells. In addition, the site was surveyed for possible fire, explosion, and vapor hazards. The results of the survey indicated that no fire, explosion, or vapor hazards were present.

Reporting

The Michigan Department of Environmental Quality (MDEQ) was notified within 24-hours by fax transmittal using the MDEQ Free Product Fax Transmittal form.

Following the May 15, 2003, site visit, monthly site visits have been continued to date. A monthly site visit was conducted on October 9, 2003 to gauge apparent free product thickness and perform free product recovery.

FREE PRODUCT REMOVAL ACTIVITIES

After the discovery of free product in MW-15, the site was monitored for free product on a weekly basis for one month. Since the quantity of free product removed was consistent, the frequency of the free product site monitoring visits was revised to monthly.

Field data obtained from the first monthly (June 26, 2003) free product site monitoring visit indicated a slight increase in free product thickness but not a significant increase. Since then the free product thickness has significantly decreased. Based on this information, the frequency of free product monitoring site visits will continue monthly and free product recovery will be performed by hand-bailing techniques.

The next monthly free product site monitoring visit is scheduled for November 2003. During the site visit, the existing nearby monitor wells on- and off-site will be screened. If it is determined that the quantity or thickness of free product has significantly increased or free product is discovered in other monitor wells, the current free product recovery

method will be revised to an active recovery system. No free product has been observed in any other wells on- or off-site

EXPOSURE PATHWAY EVALUATION

Exposure pathways applicable to the site are consistent with the Final Assessment Report (FAR).

FREE PRODUCT DELINEATION

Free product will be delineated during the installation of the proposed remediation system (as summarized in the Corrective Action Plan of the Amended FAR dated August 28, 2003).

DATA TREND ANALYSIS

Free product elevation data, apparent free product thickness, and quantity of free product removed from April 16, 2003 through October 9, 2003 is presented in Table 1. Graph 1 depicts the static water level elevations of MW-15 versus the apparent free product thickness over time. The results of a free product bail-down test performed at MW-15 can be found in the first quarterly free product report. Graph 2 depicts the apparent free product thickness vs. the groundwater elevations in the existing wells on- and off-site.

FEASABILITY ANALYSIS ON SELECTION OF RECOVERY SYSTEM

On April 17, 2003, a bail-down test was performed at MW-15. The bail-down test recovery data for MW-15 is provided in the first quarterly free product report dated July 14, 2003. Based on the free product thickness and quantity encountered since October 9, 2003, monthly free product monitoring and recovery by hand-bailing method is appropriate. However, if the results of the free product delineation activities or monthly free product site monitoring indicate an unstable or increasing free product plume, then the current recovery system will be immediately revised to stabilize and reduce the plume.

PERMITTING AND WASTE DISPOSAL TRACKING

Free product recovered from MW-15 to date (a total of 2.72 gallons) was placed in a properly labeled, DOT approved, 55-gallon drum, and stored on-site.

Air quality sampling and calculations are not deemed necessary at this time since the free product is recovered by hand-bailing using a disposable bailer.

PROPOSED FUTURE ACTIONS

Monthly Free Product Monitoring

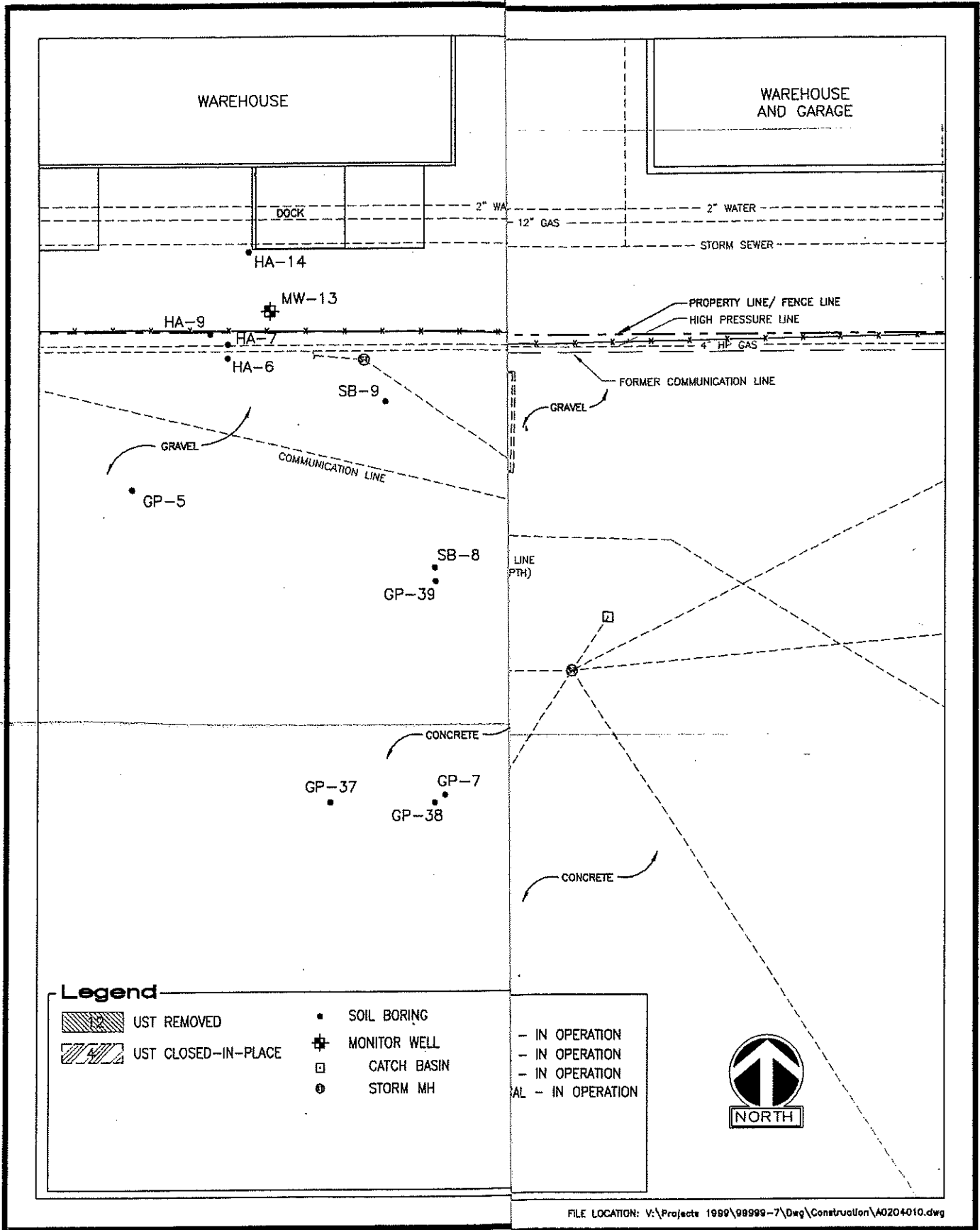
Monthly free product monitoring and recovery will continue.

Free Product Delineation Activities

The free product plume will be delineated during the installation of the remediation system. Due to system installation delays, the results will be included in the fourth Quarterly Free Product Report.

Next Quarterly Free Product Report

The next Quarterly Free Product Report will be submitted to the MDEQ on or before January 15, 2004.

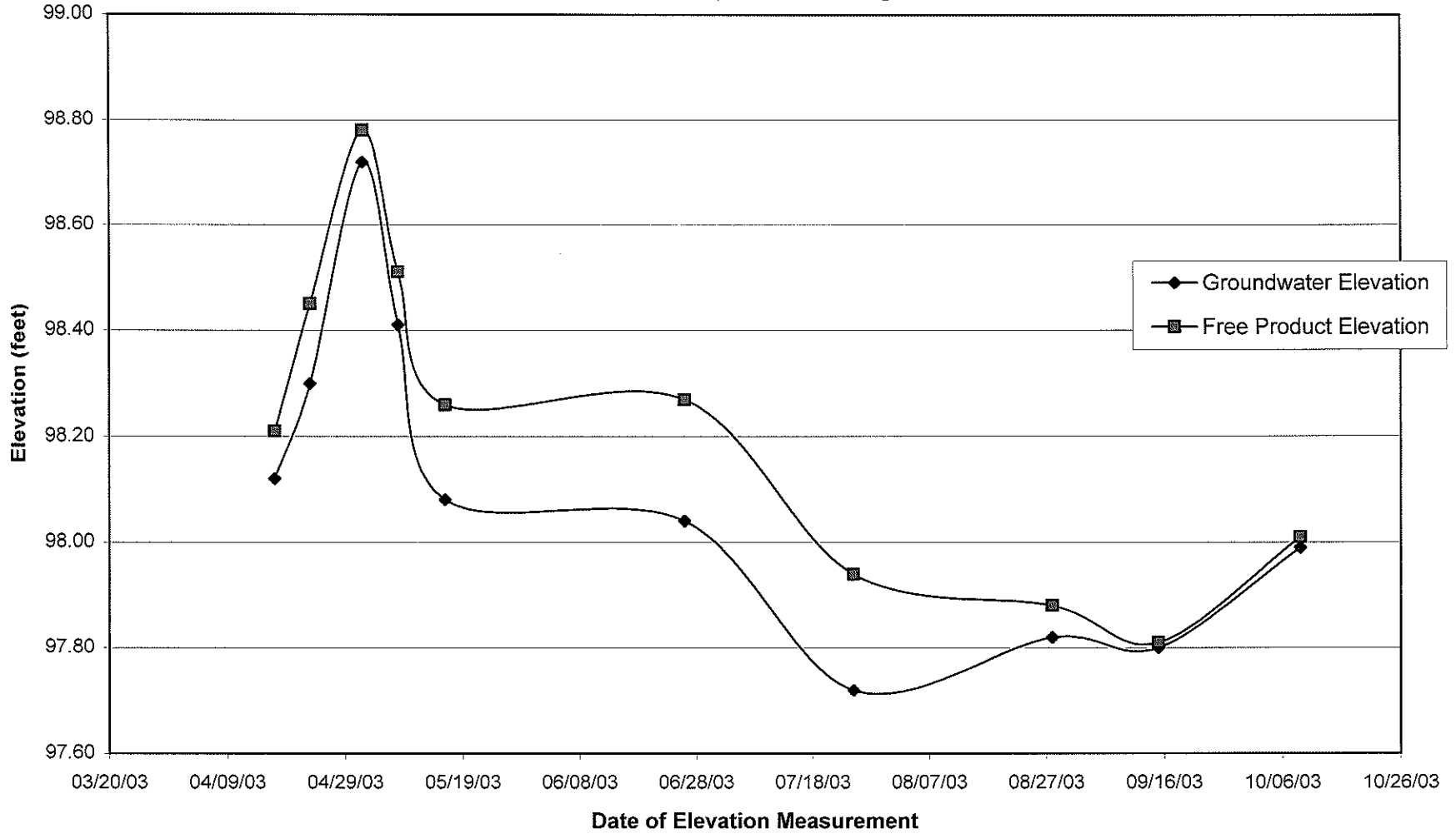


SITE SKETCH
 DEPARTMENT OF TRANSPORTATION
 COOLIDGE FACILITY
 DETROIT, MICHIGAN

Table 1
Free Product Data Summary Table
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Highway, Detroit, Michigan

Monitoring Location	Date Sampled	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet AMSL)	Product Elevation (feet AMSL)	Apparent Free Product Thickness (inches)	Quantity of Free Product Removed (gallons)
MW-15	04/17/03	100.03	1.91	98.12	98.21	1.08	0.05
	04/23/03		1.73	98.30	98.45	1.80	0.06
	05/02/03		1.31	98.72	98.78	0.72	0.06
	05/08/03		1.62	98.41	98.51	1.20	0.03
	05/16/03		1.95	98.08	98.26	2.16	0.09
	06/26/03		1.99	98.04	98.27	2.76	0.90
	07/25/03		2.31	97.72	97.94	2.64	0.75
	08/28/03		2.21	97.82	97.88	0.72	0.75
	09/15/03		2.23	97.80	97.81	0.12	0.01
	10/09/03		2.04	97.99	98.01	0.24	0.02
Total Product Removed from MW-15:							2.72
MW-7	06/26/03	100.06	8.49	91.57	0.0	0.0	0.0
	07/25/03		6.24	93.82	0.0	0.0	0.0
	08/28/03		5.14	94.92	0.0	0.0	0.0
	09/15/03		4.5	95.56	0.0	0.0	0.0
	10/09/03		3.01	97.05	0.0	0.0	0.0
Total Product Removed from MW-7:							0.0
MW-10	06/26/03	102.07	5.01	97.06	0.0	0.0	0.0
	07/25/03		----	--	0.0	0.0	0.0
	08/28/03		5.36	96.71	0.0	0.0	0.0
	09/15/03		5.45	96.62	0.0	0.0	0.0
	10/09/03		5.40	96.67	0.0	0.0	0.0
Total Product Removed from MW-10:							0.0
MW-11	06/26/03	101.87	3.29	98.58	0.0	0.0	0.0
	07/25/03		3.19	98.68	0.0	0.0	0.0
	08/28/03		3.32	98.55	0.0	0.0	0.0
	09/15/03		3.40	98.47	0.0	0.0	0.0
	10/09/03		3.32	98.55	0.0	0.0	0.0
Total Product Removed from MW-11:							0.0
MW-12	06/26/03	101.57	3.54	98.03	0.0	0.0	0.0
	07/25/03		3.52	98.05	0.0	0.0	0.0
	08/28/03		3.62	97.95	0.0	0.0	0.0
	09/15/03		3.73	97.84	0.0	0.0	0.0
	10/09/03		3.56	98.01	0.0	0.0	0.0
Total Product Removed from MW-12:							0.0
MW-13	06/26/03	100.66	6.33	94.33	0.0	0.0	0.0
	07/25/03		6.70	93.96	0.0	0.0	0.0
	08/28/03		6.80	93.86	0.0	0.0	0.0
	09/15/03		6.85	93.81	0.0	0.0	0.0
	10/09/03		6.49	94.17	0.0	0.0	0.0
Total Product Removed from MW-13:							0.0
MW-14	06/26/03	101.93	3.61	98.32	0.0	0.0	0.0
	07/25/03		4.19	97.74	0.0	0.0	0.0
	08/28/03		4.44	97.49	0.0	0.0	0.0
	09/15/03		4.48	97.45	0.0	0.0	0.0
	10/09/03		4.03	97.90	0.0	0.0	0.0
Total Product Removed from MW-14:							0.0
Total Product Removed:							2.72

Graph 1
Apparent Free Product Thickness MW-15
Detroit Department of Transportation
Coolidge Facility
14044 Schaefer Hwy., Detroit, Michigan



The Traverse Group

Confirmed Release Report

Owner Information

Detroit Dept of Transportation
1301 E Warren Ave
Detroit, MI 48207

Owner Phone#: (313) 833-3000
Contact Person: Accounting Division

Location of Tanks

Facility ID: 00013464
Department Of Transportation
14044 Schaefer Hwy
Detroit, MI 48227-3659

Facility County: Wayne

544

Release Discovery Details :

Leak ID: C-0288-06
Date / Time Released Reported : 10/02/2006 03:48 PM

Reporting Party Information :

Name: Pewu Bah deh, State Official
Company: MDEQ/RRD
Phone#: (313) 456-4673

Release Status

Release Type	Discovery Date / Time	Upgrade / Cancel Date	Correspondence	Correspondence Date	Comments
Confirmed Release	09/26/2006 02:30 PM		Confirmed Confirmation To Owner/Operator	10/03/2006	Confirmed Release Violation: Not reported within 24 hours.

Tank Information and Product Released

Tank ID	Capacity (Gallons)	Substance Released	Cause of Release						How was Leak Detected							
			Tank	Piping	Spill Protection	Overfill Protection	Dispenser	Unknown	Other	Tank Removal	Inventory Records	Repairs	Stained Soil	Petroleum Odors	Analytical Data	Free Product and/or Oil Sheen in Groundwater
20	25,000	Diesel							Fuel Clamp Leak						x	x
21	25,000	Diesel							Fuel Clamp Leak						x	x
22	25,000	Diesel							Fuel Clamp Leak						x	x
23	25,000	Diesel							Fuel Clamp Leak						x	x

Comments:

A leaking fuel clamp in the transitional sump in the fuel bay has been identified as the source of the diesel fuel release. It is not yet known which of the four 25,000-gallon diesel USTs currently use at the site leaked. 1,536 gallons of diesel fuel has been recovered to date.

Pewu

- NEW Release *544*
- PREVIOUS Release
- FILE NAME CORRECT? (if not, PLEASE INDICATE CHANGE at top).



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

August 8, 2011

CERTIFIED MAIL – 7009 2820 0001 6080 0113

Department of Transportation
City of Detroit
1301 East Warren
Detroit, Michigan 48207

Attention: Ms. Lovevett Williams

Dear Ms. Williams:

SUBJECT: Refined Petroleum Fund Notice Letter for City of Detroit Department of Transportation, 14044 Schaefer, Detroit, Wayne County
Facility ID No. 13464

This letter is to notify you that the Department of Environmental Quality (DEQ), Remediation Division (RD), plans to undertake response activities using State of Michigan (state) funds at the City of Detroit Department of Transportation (DDOT), located at 14044 Schaefer, Detroit, Wayne County (Property). Based on information in the Southeast Michigan District Office files, there have been releases of hazardous substances at this Property. Four releases were confirmed during the removal of numerous underground storage tanks (USTs) due to the presence of free product, stained soils, odors, and elevated field screening levels. A fifth release was confirmed due to a leaking transfer pipe which resulted in a significant release of hazardous substances and an evacuation of the building. The confirmed release dates are December 20, 1999 (2 releases), December 30, 1999, January 25, 2000 and September 26, 2006. The nature and extent of the contamination has not been determined. The response activities to be undertaken by the DEQ will take approximately six months, and include the characterization of source areas and defining the extent of soil and groundwater contamination.

Our files indicate that the DDOT is currently the owner and operator of the underground storage tank system, and is a liable party because it was the owner and operator at the time of the releases. The district office file for the DDOT facility indicates the following:

- Free product, discovered at the site both at the time of the releases and subsequently, has not been adequately addressed.
- Although the DDOT conducted some initial response activities at the facility, the DEQ has not received any information regarding response activities at the facility since 2003. The extent of contamination has not been defined, and the grossly contaminated soils at the facility have not been addressed.
- There has been no information submitted in response to the September 26, 2006, release.

Pursuant to Rule 115 of the Part 201 Administrative Rules, R 299.5115, the DEQ is providing you an opportunity to undertake the work described above. If you intend to undertake this work, please contact me within 14 days of receipt of this letter with your written commitment that includes a schedule to conduct this work, or a submittal of any information that demonstrates that this work was conducted in compliance with Part 213 of the NREPA. If the DEQ does not receive an affirmative commitment or documentation to support the work was conducted, the RD intends to utilize authorized state funds to conduct response activities at the Property. Please be aware that any state funds expended that are related to a release of hazardous substances at this Property are potentially subject to cost recovery by the state. Failure to undertake the work may result in other enforcement actions. Although, further enforcement actions are not our intent at this time, Rule 115 requires us to notify you of this possibility.

Pursuant to the authority of Section 20117(3) of the NREPA, you will be requested to grant voluntary access to the Property for the DEQ, its employees, contractors, or authorized representatives if the DEQ performs these response activities.

The files used in preparing this notice are located at the DEQ's Southeast Michigan District Office. If you wish to review these files, or if you have questions regarding this letter, please direct your inquiries to: Mr. Pewu Bah-Deh, Southeast Michigan District Office, RD, DEQ, 27700 Donald Court, Warren, Michigan 48092. Mr. Bah-Deh's telephone number is 586-753-3828; or you may contact me at the telephone number below.

Sincerely,



Paul Owens, District Supervisor
Southeast Michigan District Office
Remediation Division
586-753-3821

cc: Mr. Raymond Scott, City of Detroit
Ms. Karen Kligman, DEQ
Mr. Philip L. Schrantz, DEQ
Ms. Michelle Bakun, DEQ
Ms. Pewu Bah-Deh, DEQ

Department of Environmental Quality
Storage Tank Division
District E

CONFIRMED RELEASE REPORT

Owner Information CITY OF DETROIT 5300 CHRYSLER SERVICE DR DETROIT, MI 48211-2565 Owner Phone: (313) 833-3000 Contact: KEN ONG Phone: (313) 833-3000	Location of Tanks DEPARTMENT OF TRANSPORTATION 14044 SCHAEFER HWY DETROIT, MI 48227 County: WAYNE City: Location Phone: (313) 833-3000
Date Release Discovered: CONFIRMED RE, 01/25/00	

Time Release Discovered/Reported:

14:09

Date Release Reported: 01/26/00

Tank Information and Product Released:

Cause: 50000 STEEL DIESEL

Product: Product Code: <missing>

Estimated Quantity Lost: unknown

Detection Method:

1) LAB RESULTS

Comments (For USTD use only):

14:09, REPORTED 1/26/00 10:19 AM, FAX

Reporting Party Information:

CAROLYN PAPLIN - THE TRAVERSE GROUP
CONSULTANT
(734) 747-9301

Department of Environmental Quality
 Storage Tank Division
 District E

CONFIRMED RELEASE REPORT

*P
3rd release*

<p>Owner Information</p> <p>CITY OF DETROIT 5300 CHRYSLER DR DETROIT, MI 48207</p> <p>Owner Phone: (313) 833-3000</p> <p>Contact: KEN ONG Phone: (313) 833-3000</p>	<p>Location of Tanks</p> <p><i>City of Detroit</i> DEPARTMENT OF TRANSPORTATION 14044 SCHAEFER HWY DETROIT, MI 48227</p> <p>County: WAYNE City:</p> <p>Location Phone: (313) 833-3000</p>
--	---

Date Release Discovered: CONFIRMED RE, 12/30/99

Time Release Discovered/Reported:

12 PM

Date Release Reported: 12/30/99

Tank Information and Product Released:

Cause: 500 STEEL DIESEL, 1000 STEEL GAS, 1000 STEEL ENGINE OIL, 1000 STEEL

Product: Product Code: <missing>

Estimated Quantity Lost: unknown

Detection Method:

1) PID

Comments (For USTD use only):

12 PM, REPORTED 12/30/99 15:04 FAX

Reporting Party Information:

CAROLYN PAPLIN - THE TRAVERSE GROUP
 CONSULTANT
 (734) 747-9301



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7857

Revised

January 3, 2000

CERTIFIED MAIL

Dear Owner/Operator:

SUBJECT:

Facility ID No. 0-013464, Confirmed Release No. C-1388-99
DEPARTMENT OF TRANSPORTATION, 14044 SCHAEFER HWY, DETROIT, MI

On 12-30-99, the Department of Environmental Quality (DEQ), Storage Tank Division (STD), was notified of a release of a regulated substance from an underground storage tank (UST) system at the above location. Attached is a copy of the confirmed release report. As the owner or operator of this facility with a reported release, you are responsible for hiring a qualified underground storage tank consultant to conduct all appropriate corrective actions at this location, including submission of reports by the deadlines set forth in Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. If you do not agree that you are responsible for conducting corrective actions at this facility, you may submit supporting documentation to the STD DETROIT OFFICE within 30 days from receipt of this letter that demonstrates that you were not responsible for the release. Attached is informational memo IM-8, revised January 8, 1997, which provides general information on liability.

Please refer to Part 213 and the attached flow chart to help guide you through the requirements. STD approval is needed for any institutional controls that are a part of the cleanup program. The STD may audit or oversee all aspects of corrective actions undertaken pursuant to Part 213. You are required to contact our district office at least 48 hours prior to conducting on-site activities, using the attached form.

The STD requires the use of forms to assist in the reporting requirements. The required forms are available from the district office. A LUST report cover sheet should be submitted with each report. In addition, you are required to notify the STD of any changes to your UST system using a registration form.

Be advised that pursuant to Section 21313a and 21323 of Part 213, the owner or operator may be subject to penalties for not preparing and submitting the reports outlined in Part 213. In addition Section 21324 of Part 213 provides that a person who submits or causes to be submitted false or misleading information may be found guilty of fraud.

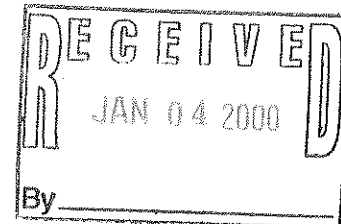
Please include the Facility ID No. found under "Subject" at the top of this notification with each submittal and on any future correspondence. Should you have questions regarding this letter, or need additional information, please contact the STD DETROIT OFFICE at (313) 392-6480.

Sincerely,

Terri Harmon
Storage Tank Division

Enclosures

cc: DETROIT OFFICE



Department of Environmental Quality
Storage Tank Division
District E

CONFIRMED RELEASE REPORT

Owner Information

CITY OF DETROIT
5300 CHRYSLER DR
DETROIT, MI 48207

Owner Phone: (313) 833-3000

Contact: KEN ONG
Phone: (313) 833-3000

Location of Tanks

DEPARTMENT OF TRANSPORTATION
14044 SCHAEFER HWY
DETROIT, MI 48227

County: WAYNE
City:

Location Phone: (313) 833-3000

Date Release Discovered: CONFIRMED RE, 12/20/99

Time Release Discovered/Reported:

9 AM

Date Release Reported: 12/20/99

Tank Information and Product Released:

Cause: TANKS 9 & 10 20000 ENGINE OIL/RESERVE; TANK 10 20000 GAS/RESERVE

Product: Product Code: <missing>

Estimated Quantity Lost: unknown

Detection Method:

1) STAINS, ODORS

Comments (For USTD use only):

9 AM, REPORTED 12/20/99 12:20 PM, FAX

Revised

Reporting Party Information:

CAROLYN PAPLIN - THE TRAVERSE GROUP
CONSULTANT
(734) 747-9301

Department of Environmental Quality
Storage Tank Division
District E

CONFIRMED RELEASE REPORT

Owner Information

CITY OF DETROIT
5300 CHRYSLER DR
DETROIT, MI 48207

Owner Phone: (313) 833-3000

Contact: KEN ONG
Phone: (313) 833-3000

Location of Tanks

DEPARTMENT OF TRANSPORTATION
14044 SCHAEFER HWY
DETROIT, MI 48227

County: WAYNE
City:

Location Phone: (313) 833-3000

Date Release Discovered: CONFIRMED RE, 12/20/99

Time Release Discovered/Reported:

12:40 PM

Date Release Reported: 12/20/99

Tank Information and Product Released:

Cause: TANK 12 12000 STEEL GAS

Product: Product Code: <missing>

Estimated Quantity Lost: unknown

Detection Method:

1) PID, ODORS

Comments (For USD use only):

12:40 PM, REPORTED 12/20/99 14:44 FAX

Benwood

Reporting Party Information:

CAROLYN PAPLIN - THE TRAVERSE GROUP
CONSULTANT
(734) 747-9301



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

August 24, 2011

Mr. Craig Savage
Gannett Fleming of Michigan, Inc.
Suites 900-1000, 17901 Woodland Dr.
New Boston, MI 48164

Dear Mr. Savage:

~~SUBJECT: Gannett Fleming Contract of August 5, 2008, (RD #8010)~~

The Michigan Department of Environmental Quality is prepared to begin development of a work plan and project assignment for remedial investigation at City of Detroit - DOT - 14044 Schaefer, Site ID #82002470, in Wayne County. The project manager for this site will be Pewu Bah-deh of the Southeast Michigan District Office in the Remediation Division. Please contact Mr. Bah-deh at 586-753-3828 to initiate work plan development.

The State Project Manger is responsible for assuring site work is done in accordance with the above contract, verifying and attesting to the accuracy of invoices, and verifying that invoices are within the terms of the contract.

If you have any questions, please contact me at 517-373-2811.

Sincerely,

Gary Simons
Storage Tanks & Contracts Unit
Remediation Division
517-373-2811

cc: Paul Owens, Southeast Michigan District Supervisor, RD
Pewu Bah-deh, Project Manager, RD
Contract File A-5.



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

April 23, 2008

RECEIVED

APR 25 2008

REMEDICATION & REDEVELOPMENT DIVISION
SOUTHEAST MICHIGAN DISTRICT OFFICE

Mr. Ken Ong
City of Detroit
Department of Transportation
1301 East Warren Avenue
Detroit Michigan 48207

Dear Mr. Ken Ong:

Subject: The Traverse Group, Inc., Former Qualified Underground Storage Tank
Consultant for Department of Transportation; 14044 Schaefer Highway, Detroit,
Wayne County; Facility ID No. 13464

The Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) has been informed that The Traverse Group, Inc., the Qualified Underground Storage Tank Consultant (QC) retained to address the contamination from your leaking underground storage tanks at the above referenced site, has voluntarily discontinued its QC status.

Pursuant to Part 213¹, you are required to obtain the services of an approved QC to complete the corrective action activities. The approved QCs can be found at the following site:
http://www.deq.state.mi.us/sid-web/QC_Search.aspx.

If you have technical questions regarding your site, please contact the RRD district project manager, Mr. Pewu Bah-Deh, at (586) 753-3828 or by email at bahdehp@michigan.gov. If you have questions regarding the QCs, you may contact me at the telephone number listed below or by email at harmont@michigan.gov.

Sincerely,

Terri L. Harmon, Departmental Analyst
Part 213/215 Enforcement Unit
Compliance and Enforcement Section
517-335-7272

cc: Mr. Pewu Bah-Deh, DEQ

¹ Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.



STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



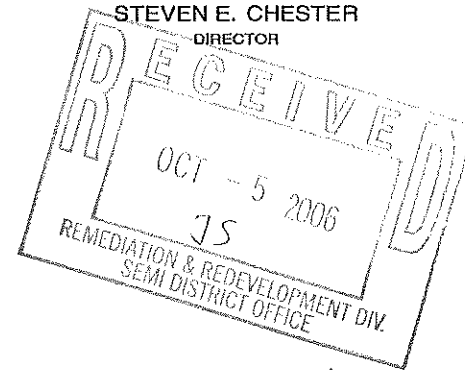
JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

October 03, 2006

CERTIFIED MAIL

Detroit Dept of Transportation
1301 E Warren Ave
Detroit, MI 48207



Dear Accounting Division :

SUBJECT: Facility ID No. 00013464, Confirmed Release No. C-0288-06
Department Of Transportation
14044 Schaefer Hwy, Detroit, MI 48227-3659, Wayne County

On October 2, 2006, the Department of Environmental Quality (DEQ), Waste and Hazardous Materials Division (WHMD), was notified of a release of a regulated substance from an underground storage tank (UST) system at the subject location. Enclosed is a copy of the confirmed release report.

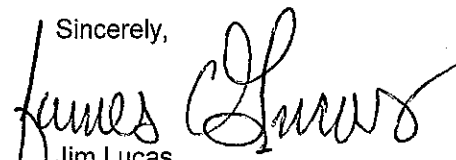
Pursuant to Part 213, Leaking Underground Storage Tanks, of the natural Resources and Environmental Protection Act, 1994 PA 451, as amended, you are responsible for hiring a Qualified Underground Storage Tank Consultant to conduct the required corrective actions at this location. Please see the enclosed information regarding the hiring of a QC. If you do not agree that you are responsible for conducting corrective actions at this facility, you may submit supporting documentation to the Remediation and Redevelopment Division (RRD) of the DEQ within 30 days from receipt of this letter that demonstrates you are not responsible for the release.

The RRD may audit or oversee all aspects of corrective actions undertaken pursuant to Part 213. Please be advised that the owner or operator may be subject to penalties for not submitting the reports outlined in Part 213. In addition, Section 21324 of Part 213 provides that a person who submits, or causes to be submitted, false or misleading information may be prosecuted for fraud.

Please note that you are required to notify the WHMD of any changes to your UST system using the form EQP3821 Registration of Underground Storage Tanks.

Please include the facility identification number in any further communications with the DEQ. Correspondence, including reports required under Part 213, should be submitted to the RRD Detroit Field Office, 3058 West Grand Blvd., Suite 2-300, Detroit, MI 48202-6058. Should you have questions regarding this letter, or need additional information, please contact the Detroit Field Office at (313) 456-4700.

Sincerely,


Jim Lucas
Storage Tank Unit
Waste and Hazardous Materials Division

Enclosures

cc: Detroit Field Office, RRD

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - STORAGE TANK DIVISION
 PO BOX 30157, LANSING, MI 48909-7657, Phone 517-373-8168, Fax 517-335-2245, E-mail DEQ-STD-TANKS@state.mi.us

RELEASE REPORT: SUSPECTED CONFIRMED

THIS INFORMATION IS REQUIRED UNDER 1994 PA 451, AS AMENDED (ACI 451), FAILURE TO COMPLY WITH THE PROVISIONS OF THIS ACT MAY RESULT IN A MISDEMEANOR AND/OR CIVIL PENALTIES NOT TO EXCEED \$5000 PER DAY, PER TANK.

INSTRUCTIONS: This form applies to releases of petroleum and hazardous substances from underground storage tanks regulated under Part 211, Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (PA 451).
 The owner or operator must report suspected and confirmed releases to the Storage Tank Division (STD) within 24 hours of discovery. The report may be made by a consultant on behalf of the owner/operator. Phone 1-800-MICHUST, FAX (this form to 517-335-2245, or submit the web form from the STD web site www.state.mi.us/std. All information on this form must be provided regardless of whether the release is reported by telephone, FAX, or web form. For further information see Page 2.

STD USE ONLY	
FACILITY NUMBER 0-00013464	ENTRY DATE 10/3/06
UPGRADE/CANCEL DATE —	INCIDENT NUMBER C-02588-06
DATE REPORTED 10/2/2006	TIME REPORTED 3:48 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
REPORTED BY: <input type="checkbox"/> PHONE <input checked="" type="checkbox"/> FAX <input type="checkbox"/> VOICE MAIL <input type="checkbox"/> E-MAIL <input type="checkbox"/> REGULAR MAIL	
Signature <i>James G. [unclear]</i>	

PERSON REPORTING RELEASE Pewu Bah-deh	COMPANY (IF NOT OWNER/OPERATOR) MDEQ - RRD	TELEPHONE NUMBER: (313) 466-4873
TANK REMOVAL CONTRACTOR	CONTRACTOR CONTACT	CONTRACTOR TELEPHONE NUMBER: ()

I. OWNERSHIP OF TANKS			II. LOCATION OF TANKS			
NAME OF OWNER (CORPORATION, INDIVIDUAL, ETC.) City of Detroit, Department of Transportation; Attn: Mr. Ken Ong, Mgr II Plant Mainte.			FACILITY NAME OR COMPANY SITE IDENTIFIER Coolidge Terminal			
STREET ADDRESS 1301 East Warren Avenue			STREET ADDRESS (P O Box Not Acceptable) 14044 Schaefer Hwy			
CITY Detroit	STATE Michigan	ZIP CODE 48207	CITY Detroit	COUNTY Wayne	STATE MI	ZIP CODE 48227-3659
TELEPHONE NUMBER (313) 833-3000			TELEPHONE NUMBER (313) 870-5033			
DATE RELEASE DISCOVERED: September 26, 2006			CONTACT PERSON FOR LOCATION Dave Fedenis			
TIME RELEASE DISCOVERED: <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM 2:30						

TANK NUMBER ¹ (if known)	20	21	22	23	
SIZE OF TANK (gallons)	25,000	25,000	25,000	25,000	
SUBSTANCE RELEASED	Diesel Fuel	Diesel Fuel	Diesel Fuel	Diesel Fuel	
CAUSE OF RELEASE (Check all that apply)	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Spill Protection <input type="checkbox"/> Overfill Protection <input type="checkbox"/> Dispenser <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Other (provide details in comments) Fuel Clamp leak	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Spill Protection <input type="checkbox"/> Overfill Protection <input type="checkbox"/> Dispenser <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Other (provide details in comments) Fuel Clamp leak	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Spill Protection <input type="checkbox"/> Overfill Protection <input type="checkbox"/> Dispenser <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Other (provide details in comments) Fuel clamp leak	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Spill Protection <input type="checkbox"/> Overfill Protection <input type="checkbox"/> Dispenser <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Other (provide details in comments) fuel clamp leak	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Spill Protection <input type="checkbox"/> Overfill Protection <input type="checkbox"/> Dispenser <input type="checkbox"/> Unknown <input type="checkbox"/> Other (provide details in comments)
HOW WAS LEAK DETECTED (Check all that apply)	<input type="checkbox"/> Tank Removal <input type="checkbox"/> Inventory Records <input type="checkbox"/> Repairs <input type="checkbox"/> Stained Soil <input checked="" type="checkbox"/> Petroleum Odors <input type="checkbox"/> Analytical Data <input checked="" type="checkbox"/> Free Product and/or Oil Sheen in Groundwater	<input type="checkbox"/> Tank Removal <input type="checkbox"/> Inventory Records <input type="checkbox"/> Repairs <input type="checkbox"/> Stained Soil <input checked="" type="checkbox"/> Petroleum Odors <input type="checkbox"/> Analytical Data <input checked="" type="checkbox"/> Free Product and/or Oil Sheen in Groundwater	<input type="checkbox"/> Tank Removal <input type="checkbox"/> Inventory Records <input type="checkbox"/> Repairs <input type="checkbox"/> Stained Soil <input checked="" type="checkbox"/> Petroleum Odors <input type="checkbox"/> Analytical Data <input checked="" type="checkbox"/> Free Product and/or Oil Sheen in Groundwater	<input type="checkbox"/> Tank Removal <input type="checkbox"/> Inventory Records <input type="checkbox"/> Repairs <input type="checkbox"/> Stained Soil <input checked="" type="checkbox"/> Petroleum Odors <input type="checkbox"/> Analytical Data <input checked="" type="checkbox"/> Free Product and/or Oil Sheen in Groundwater	<input type="checkbox"/> Tank Removal <input type="checkbox"/> Inventory Records <input type="checkbox"/> Repairs <input type="checkbox"/> Stained Soil <input checked="" type="checkbox"/> Petroleum Odors <input type="checkbox"/> Analytical Data <input checked="" type="checkbox"/> Free Product and/or Oil Sheen in Groundwater

COMMENTS (attach additional sheets if necessary): A leaking fuel clamp in the transitional sump in fuel bay has been identified as the source of diesel fuel release. It is not yet known which of the four 25,000-gallon diesel USTs currently use at the site leaked. 1,536 gallon of diesel fuel has been recovered to date.



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

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INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

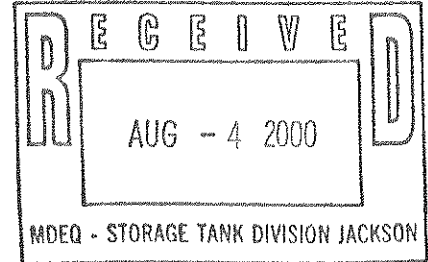
*Linda, please forward to
Darin Desautels, SEM.
Thanks
F.*

REPLY TO:

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7657

August 1, 2000

Ms. Carolyn L. Paplin
The Traverse Group
3772 Plaza Drive
Ann Arbor, MI 48108



Dear Ms. Paplin:

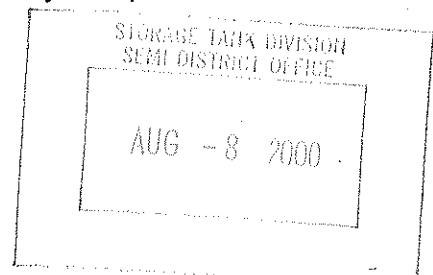
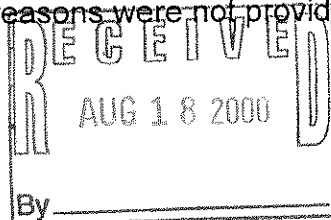
SUBJECT: Variance to the Storage and Handling of Flammable and Combustible Liquids Rules, Rule 305, Section 2-4.2.1(b), for the Gilbert Facility, 5600 Wabash, Detroit, Wayne County, Facility No. 9182575 and for the Coolidge Facility, 14044 Schaefer Highway, Detroit, Wayne County, Facility No. 9182190

This is in response to the above-subject variance request dated June 2, 2000, on behalf of the Detroit Department of Transportation (DDOT) Gilbert and Coolidge facilities, to install four 25,000 gallon and four 30,000 gallon aboveground storage tanks (ASTs) that will contain Class II liquid for private motor vehicle fueling.

Rule 305, Section 2-4.2.1(b) of the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules, 1992 AACRS R 29.4101 et seq., states that each tank, containing Class II liquid for private motor vehicle fueling, shall be limited to a maximum of 15,000 gallons individual capacity and not more than 30,000 gallon aggregate capacity. The 15,000 gallon individual capacity and the 30,000 gallon aggregate capacity has been determined to offer an AST system the same degree of fire safety as that of an underground storage tank (UST) system and to limit a spill from these ASTs to a set maximum.

Your variance request is to install four 25,000 gallon and four 30,000 gallon ASTs that will contain Class II liquids for private motor vehicle fueling. The reason for this request is due to the fact that the USTs that were used to fuel the fleet of DDOT vehicles have been removed and now there are no other tanks in working order available to fuel the DDOT fleet.

In order for a variance request to be granted, there must be satisfactory explanation of why compliance is not possible or what fire and environmental equivalencies will be provided. Adequate reasons were not provided to show why compliance cannot be met.



Further, the proposed system upgrades for additional fire, safety, and environmental protection listed in the variance request are all requirements of the FL/CL Rules, 1992 AACS R 29.4101 et seq., and are not considered additional equivalencies for fire and environmental protection.

Based on the above information, granting the requested variance would result in an increased hazard to life, property or the environment. Therefore, your variance request is denied as stated.

However, this office would be open to meeting with you and representatives of your client, at your convenience, to discuss possible equivalencies, contingencies, and alternatives to what you have proposed that would potentially allow you to operate these two facilities. If such a meeting is desired, please contact this office at the number below.

If you wish to appeal the denial of this variance request, please complete and forward the enclosed Petition for Contested Case Hearings within 60 days of receipt of the denial.

If you have any additional questions concerning this matter, please contact Ms. Andrea Zajac, Chief, Technical Review Unit, at 517-335-7294.

Sincerely,



Roger Przybysz, Chief
Storage Tank Division
517-373-2789

Enclosure

cc: City of Detroit Department of Transportation
Mr. Lee Carter, DEQ
Ms. Andrea Zajac, DEQ
Mr. John LaPointe, DEQ
Mr. Kevin Wieber, DEQ



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

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RUSSELL J. HARDING, Director

REPLY TO:

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7657

January 27, 2000

CERTIFIED MAIL

Dear Owner/Operator:

SUBJECT:

Facility ID No. 0-013464, Confirmed Release No. C-88-00
DEPARTMENT OF TRANSPORTATION, 14044 SCHAEFER HWY, DETROIT, MI

On 01-26-00, the Department of Environmental Quality (DEQ), Storage Tank Division (STD), was notified of a release of a regulated substance from an underground storage tank (UST) system at the above location. Attached is a copy of the confirmed release report. As the owner or operator of this facility with a reported release, you are responsible for hiring a qualified underground storage tank consultant to conduct all appropriate corrective actions at this location, including submission of reports by the deadlines set forth in Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. If you do not agree that you are responsible for conducting corrective actions at this facility, you may submit supporting documentation to the STD DETROIT OFFICE within 30 days from receipt of this letter that demonstrates that you were not responsible for the release. Attached is informational memo IM-8, revised January 8, 1997, which provides general information on liability.

Please refer to Part 213 and the attached flow chart to help guide you through the requirements. STD approval is needed for any institutional controls that are a part of the cleanup program. The STD may audit or oversee all aspects of corrective actions undertaken pursuant to Part 213. You are required to contact our district office at least 48 hours prior to conducting on-site activities, using the attached form.

The STD requires the use of forms to assist in the reporting requirements. The required forms are available from the district office. A LUST report cover sheet should be submitted with each report. In addition, you are required to notify the STD of any changes to your UST system using a registration form.

Be advised that pursuant to Section 21313a and 21323 of Part 213, the owner or operator may be subject to penalties for not preparing and submitting the reports outlined in Part 213. In addition Section 21324 of Part 213 provides that a person who submits or causes to be submitted false or misleading information may be found guilty of fraud.

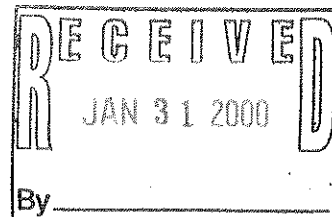
Please include the Facility ID No. found under "Subject" at the top of this notification with each submittal and on any future correspondence. Should you have questions regarding this letter, or need additional information, please contact the STD DETROIT OFFICE at (313) 392-6480.

Sincerely,

Terri Harmon
Storage Tank Division

Enclosures

cc: DETROIT OFFICE





JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

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HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

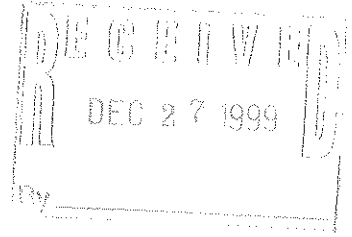
INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7857

December 22, 1999

CERTIFIED MAIL

Dear Owner/Operator:

SUBJECT:

Facility ID No. 0-013464, Confirmed Release No. C-1333-99
DEPARTMENT OF TRANSPORTATION, 14044 SCHAEFER, DETROIT, MI

On 12-20-99, the Department of Environmental Quality (DEQ), Storage Tank Division (STD), was notified of a release of a regulated substance from an underground storage tank (UST) system at the above location. Attached is a copy of the confirmed release report. As the owner or operator of this facility with a reported release, you are responsible for hiring a qualified underground storage tank consultant to conduct all appropriate corrective actions at this location, including submission of reports by the deadlines set forth in Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. If you do not agree that you are responsible for conducting corrective actions at this facility, you may submit supporting documentation to the STD DETROIT OFFICE within 30 days from receipt of this letter that demonstrates that you were not responsible for the release. Attached is informational memo IM-8, revised January 8, 1997, which provides general information on liability.

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Sincerely,

Terri Harmon
Storage Tank Division

Enclosures

cc: DETROIT OFFICE



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

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HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

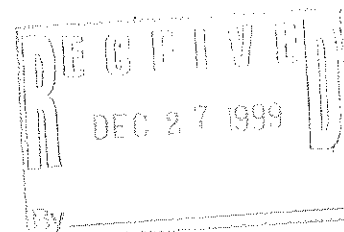
INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7657

December 22, 1999

CERTIFIED MAIL

Dear Owner/Operator:

SUBJECT:

Facility ID No. 0-013464, Confirmed Release No. C-1332-99
DEPARTMENT OF TRANSPORTATION, 14044 SCHAEFER, DETROIT, MI

On 12-20-99, the Department of Environmental Quality (DEQ), Storage Tank Division (STD), was notified of a release of a regulated substance from an underground storage tank (UST) system at the above location. Attached is a copy of the confirmed release report. As the owner or operator of this facility with a reported release, you are responsible for hiring a qualified underground storage tank consultant to conduct all appropriate corrective actions at this location, including submission of reports by the deadlines set forth in Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. If you do not agree that you are responsible for conducting corrective actions at this facility, you may submit supporting documentation to the STD DETROIT OFFICE within 30 days from receipt of this letter that demonstrates that you were not responsible for the release. Attached is informational memo IM-8, revised January 8, 1997, which provides general information on liability.

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Sincerely,

Terri Harmon
Storage Tank Division

Enclosures

cc: DETROIT OFFICE

in operation since 1986 as DDOT

Tanks Status

SID-DEQ

Facility Address:
 Facility ID: 00013464
 Department Of Transportation
 14044 Schaefer Hwy
 Detroit, MI 48227

Owner Address:
 Owner ID: 20621
 Detroit Dept of Transportation
 1301 E Warren Ave
 Detroit, MI 48207



(**Note:** Use page orientation "Landscape" for printing.)

Instruction: Click on the Tank ID to see more details.

Tank ID	Tank Status	Capacity (in Gal)	Installation Date	Substance Stored	Removed/ Closed Date	Removed/ Closed Notify Date
1	Closed in Ground	50,000	5/5/1946	Diesel	1/4/2000	2/18/2000
2	Closed in Ground	50,000	5/5/1946	Diesel	12/22/1999	1/11/2000
3	Closed in Ground	50,000	5/5/1946	Diesel	1/4/2000	2/18/2000
4	Closed in Ground	12,000	5/5/1946	Gasoline	1/4/2000	2/18/2000
5	Closed in Ground	1,000	5/5/1946	ENGINE/OIL	12/22/1999	1/11/2000
6	Closed in Ground	1,000	5/5/1946	ENGINE/OIL	12/22/1999	1/11/2000
7	Closed in Ground	1,000	5/5/1946	CONVERTER/OIL	12/20/1999	1/11/2000
8	Closed in Ground	1,000	1/1/1980	DEXTRON	1/4/2000	2/18/2000
9	Removed from Ground	20,000	5/5/1946	ENGINE/OIL	12/20/1999	1/11/2000
10	Removed from Ground	12,500	5/5/1946	ENGINE/OIL	12/20/1999	1/11/2000
11	Closed in Ground	1,000	5/5/1946	Used Oil	12/29/1999	1/11/2000
12	Removed from Ground	12,000	5/5/1979	Gasoline	12/21/1999	1/11/2000
13	Removed from Ground	500	1/1/1946	WATER	12/22/1999	1/11/2000
14	Removed from Ground	500	1/1/1946	WATER	12/22/1999	1/11/2000
15	Removed from Ground	500	1/1/1946	WATER	12/22/1999	1/11/2000
16	Removed from Ground	500	1/1/1946	WATER	12/22/1999	1/11/2000
18	Removed from Ground	1,000	1/1/1946	WATER	12/16/1999	1/11/2000
19	Removed from Ground	20,000	1/1/1946	Gasoline	12/23/1999	1/11/2000
20	Currently In Use	25,000	4/18/2001	Diesel		
21	Currently In Use	25,000	4/18/2001	Diesel		
22	Currently In Use	25,000	4/18/2001	Diesel		
23	Currently In Use	25,000	4/18/2001	Diesel		
24	Currently In Use	10,000	4/18/2001	Gasoline		
25	Currently In Use	1,000	4/18/2001	Used Oil		



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

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INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

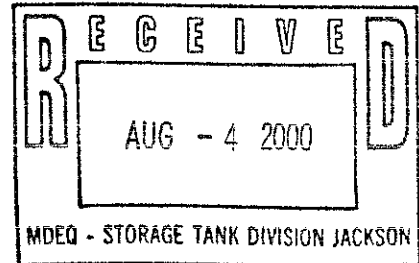
*Linda, please forward to
Darin Desautels, SEM.
Thanks
F.*

REPLY TO:

STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7657

August 1, 2000

Ms. Carolyn L. Paplin
The Traverse Group
3772 Plaza Drive
Ann Arbor, MI 48108



Dear Ms. Paplin:

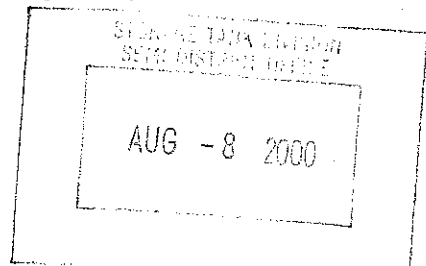
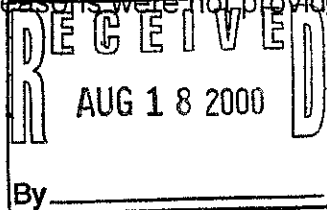
SUBJECT: Variance to the Storage and Handling of Flammable and Combustible Liquids Rules, Rule 305, Section 2-4.2.1(b), for the Gilbert Facility, 5600 Wabash, Detroit, Wayne County, Facility No. 9182575 and for the Coolidge Facility, 14044 Schaefer Highway, Detroit, Wayne County, Facility No. 9182190

This is in response to the above-subject variance request dated June 2, 2000, on behalf of the Detroit Department of Transportation (DDOT) Gilbert and Coolidge facilities, to install four 25,000 gallon and four 30,000 gallon aboveground storage tanks (ASTs) that will contain Class II liquid for private motor vehicle fueling.

Rule 305, Section 2-4.2.1(b) of the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules, 1992 AACS R 29.4101 et seq., states that each tank, containing Class II liquid for private motor vehicle fueling, shall be limited to a maximum of 15,000 gallons individual capacity and not more than 30,000 gallon aggregate capacity. The 15,000 gallon individual capacity and the 30,000 gallon aggregate capacity has been determined to offer an AST system the same degree of fire safety as that of an underground storage tank (UST) system and to limit a spill from these ASTs to a set maximum.

Your variance request is to install four 25,000 gallon and four 30,000 gallon ASTs that will contain Class II liquids for private motor vehicle fueling. The reason for this request is due to the fact that the USTs that were used to fuel the fleet of DDOT vehicles have been removed and now there are no other tanks in working order available to fuel the DDOT fleet.

In order for a variance request to be granted, there must be satisfactory explanation of why compliance is not possible or what fire and environmental equivalencies will be provided. Adequate reasons were not provided to show why compliance cannot be met.



Ms. Carolyn L. Paplin

2

August 1, 2000

Further, the proposed system upgrades for additional fire, safety, and environmental protection listed in the variance request are all requirements of the FL/CL Rules, 1992 AACRS R 29.4101 et seq., and are not considered additional equivalencies for fire and environmental protection.

Based on the above information, granting the requested variance would result in an increased hazard to life, property or the environment. Therefore, your variance request is denied as stated.

However, this office would be open to meeting with you and representatives of your client, at your convenience, to discuss possible equivalencies, contingencies, and alternatives to what you have proposed that would potentially allow you to operate these two facilities. If such a meeting is desired, please contact this office at the number below.

If you wish to appeal the denial of this variance request, please complete and forward the enclosed Petition for Contested Case Hearings within 60 days of receipt of the denial.

If you have any additional questions concerning this matter, please contact Ms. Andrea Zajac, Chief, Technical Review Unit, at 517-335-7294.

Sincerely,



Roger Przybysz, Chief
Storage Tank Division
517-373-2789

Enclosure

cc: City of Detroit Department of Transportation

Mr. Lee Carter, DEQ

Ms. Andrea Zajac, DEQ

Mr. John LaPointe, DEQ

Mr. Kevin Wieber, DEQ



STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTE AND HAZARDOUS MATERIALS DIVISION

FACILITY INSPECTION REPORT

Owner Name & Address:

Detroit Dept of Transportation
1301 E Warren Ave
Detroit, MI 48207

Location of Tanks:

Department Of Transportation
14044 Schaefer Hwy
Detroit, MI 48227-3659
County - Wayne
Facility ID - 00013464

ATTENTION: Ken Ong

An Inspection Against a Complaint was conducted on September 26, 2006, at the above-subject facility for compliance with Part 211, Underground Storage Tank Regulations, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the Michigan Underground Storage Tank Rules (MUSTR), 1999 AACS R 29.2101 et seq. and the applicable sections of the rules for the Storage and Handling of Flammable and Combustible Liquids, 2003 AACS R 29.5101 et seq. The inspection showed that the facility is disapproved.

- 1 Piping joints shall be liquid tight and shall be welded, flanged, threaded, grooved, friction type or chemically bonded.
UST 280.10 (J) (FL/CL Part 2, Section 3.2.2)

Special Attention : A leak was found and repaired at the 4" clamshell type APT flex pipe fitting inside the piping transition sump located in the garage area.

- 2 Interstitial or monthly monitoring shall be conducted in accordance with 280.44 (C).
Section 280.44(C)

Special Attention : The DEQ Underground Storage Tank Plan Review Report dated 3/7/01 states that "Sump sensors shall be installed in accordance with the following: the piping shall be sloped sufficiently toward the sensor; the sensor shall be mounted where it will detect both product and water; the sump housing the sensor shall be liquid-tight; the sensor shall detect both fuel and water; the sensor shall activate an audible or visual alarm, and shall SHUT OFF THE PUMP when activated unless a mechanical or electronic line leak detector is installed in the piping." At this time it is unclear whether or not the existing console went into alarm mode as a result of the sensor being submerged in diesel fuel, but there is no indication that the existing pumps ever shut down as a result. There currently are no mechanical or electronic line leak detectors installed on the diesel or gasoline systems.

- 3 An approved release detection method shall be initiated and properly maintained for tanks and piping.
UST 280.40

Special Attention : The sump sensor for the piping transition sump was improperly elevated inside the sump, however, the sensor was submerged in the diesel fuel. The existing EBW Tank Monitoring console was in alarm mode, without paper, and appears to not be working properly. A Warrick Controls panel located on the north wall of the garage near the piping transition sump was in alarm mode but the Inspector was informed that this control panel was for the oil/water separator located just outside the building. ALL release detection equipment will need to be tested for proper function. Control panels will be required to be properly I.D., sensors identified, and instructions posted with the contact person (name & number) to be contacted in case of alarm conditions.

- 4 Inventory control shall detect a release of at least 1% of flow through of product plus 130 gallons per month. To use this method a person shall 1) daily measure inputs, withdrawals and product remaining, then record and compute each operating day, 2) equipment shall measure product to 1/8 of an inch 3) product level is measured before and after each delivery, 4) drop tube shall be within 1 foot of the bottom of tank, 5) product being dispensed is metered and 6) water is measured in tank once a month to 1/8 of an inch. UST 280.43(A)

Special Attention : Start performing inventory control per the EPA pamphlet "Doing Inventory Control Right for Underground Storage Tanks" provided to you by the Inspector.

- 5 Owners and operators shall report a release within 24 hours of the discovery of the release.
Section 280.61

Special Attention : The Inspector informed Mr. Ong during the 9/27/06 site meeting that a confirmed release needed to be submitted for this incident. Inspector provide Mr. Ong with a Free Product Fax Transmittal form EQP3800. Inspector received a phone call from Mr. Ong indicating that the form has been submitted to Lansing.

Inspector received a PEAS notice regarding a leaking gasoline underground storage tank that required the terminal building to be evacuated on 9/21/06. Inspector was shown by DDOT maintenance personnel a building sump that had been pumped out and suspected of being the source of the fumes. The odor of petroleum was present upon entering the basement of the terminal building and free product appeared to be in the building sump.

A piping transition sump located inside the garage building next to the portion of the utilities tunnel which runs from the garage to the terminal building was found to be full and overflowing with diesel fuel. The underground drainage system for this tunnel is believed to flow into the sump located in the terminal building.

The Inspector ordered the diesel fuel system shut down, the piping sump, tank sump, oil/water separate, building sump, and any test wells in the immediate area pumped out and properly disposed of. Provide documentation, including manifests of that disposal.

The Inspector conducted an existing inspection of the facility as a result of this incident and will identify other violations at the facility that needs to be corrected in a report to follow.

The material and equipment failure, lack of monitoring of the release detection equipment, and improper installation or maintenance of the existing fuel system contributed to an unknown, possibly substantial amount of free product being release. The basement in the terminal building should be well vented and the existing building sump needs to be monitored daily (especially after rain) for the accumulation of free product and flumes.

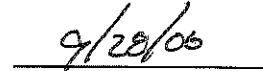
The inspection and violations (if any) were discussed with Ray Chenault at the time of the inspection.

Documentation shall be furnished to the district office identified below verifying that the violation(s), cited in this inspection report have been corrected. The documentation shall be provided by October 28, 2006. If the cited violation(s) are not corrected and/or certification of compliance is not provided by the date specified, a reinspection will be conducted. The owner or operator of this facility will be subject to civil and criminal provisions pursuant to Part 211 of Act 451, including and not limited to placement of tags to the tank(s) prohibiting delivery of product if the stated violations have not been corrected.

If you have additional questions concerning this matter, please contact me.



JERRY ARNOLD
Hazardous Materials Storage Inspector
SE Michigan District Office
27700 Donald Court
Warren, MI 48092-2793
Phone: (586) 753-3848
Fax: (586) 753-3831



Date

New Score (49)

PART 213 MASTER DATA FORM
REMEDIATION & REDEVELOPMENT DIVISION

SECTION A - SITE LOCATION INFORMATION

SITE NAME: City of Detroit - DOT - 14044 Schaefer Hwy SITE ID #: 82002470
STREET # / NAME: 14044 Schaefer Hwy
CITY/TOWNSHIP: Detroit ZIP CODE: 48227
COUNTY: Wayne STATE CO. CODE: 82 FEDERAL CO. CODE: -

LATITUDE: - LONGITUDE: - HOUSE: 11 SENATE: 03 CONGRESS: 15

LOCATION CODE: 1S-11E-19-DD DEQ DISTRICT: Southeast Michigan

DIRECTIONS TO SITE: (USE REVERSE SIDE, IF NECESSARY) I-96 W to M-39 S to I-96 E to Schaefer Hwy N

X: 732,068.0 Y: 208,352.3

SECTION B - PART 213 LIST INFORMATION

FINAL SCORE: 37 DATE: 10/19/06 SIC CODE NUMBER: 4173
PREVIOUS SCORE: DATE: SIC CODE DESCRIPTION: Bus Terminal & Service Facilities

POINT OF RELEASE

- | | |
|--|---|
| <input type="checkbox"/> PILE | <input type="checkbox"/> ABOVE GROUND TANK |
| <input type="checkbox"/> GEOLOGIC FORMATION | <input checked="" type="checkbox"/> UNDER GROUND TANK |
| <input type="checkbox"/> LAGOON | <input type="checkbox"/> PIPELINE |
| <input type="checkbox"/> CONTAINER | <input type="checkbox"/> LANDFILL |
| <input type="checkbox"/> BARREL | <input type="checkbox"/> UNKNOWN |
| <input type="checkbox"/> PIT <input type="checkbox"/> DUMP | <input type="checkbox"/> SURFACE DISCHARGE |

RESOURCES	POTENTIALLY		
	AFFECTED	SUSPECTED	CONFIRMED
SEDIMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SURFACE WATER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GROUNDWATER	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
AIR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SOIL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MUNICIPAL WELL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RESIDENTIAL WELL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FAUNA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FLORA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

POLLUTANT - BY NAME/WASTE CATEGORY

- | | |
|---|--|
| <input type="checkbox"/> SOLVENT - SPECIFY: | <input type="checkbox"/> PESTICIDE/HERBICIDE |
| <input checked="" type="checkbox"/> GASOLINE/DIESEL | <input type="checkbox"/> SOLID WASTE |
| <input checked="" type="checkbox"/> HEAVY METAL | <input type="checkbox"/> PCB'S |
| <input type="checkbox"/> BRINE/CHLORIDE | |

CHEMICALS BY NAME:

1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene
BTEX
MTBE, Benzo(k)fluoranthene, Chrysene, Lead, Phenanthrene
2-Methylnaphthalene, Naphthalene, Acenaphthalene
Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene

STATUS	SITE ACTIVITIES	FUNDING SOURCE
0=ONGOING	INTERIM RESPONSE	F = FEDERAL
C=COMPLET E	REMEDIAL INV.	P = PRP
P=PENDING	FEASIBILITY STUDY	SF=STATE/FEDS
	FINAL CLEANUP	SP=STATE PRP
	O & M	FP=FEDS/PRP

OTHER PROGRAM LISTS

- LUST SUPERFUND BOND

SITE OWNERSHIP

- FEDERAL PRIVATE STATE LOCAL

CODE: 1 LIST CATEGORY: Inactive

PREPARED BY: Dave Gregory

QA by Cheryl Nilson 10/23/06

ADDRESS INFORMATION FOR NOTIFICATION

(COMPLETE FOR NEW PART 213 SITES ONLY)

CURRENT OWNER AND/OR OPERATOR

DATE: 10/19/06

SITE NAME: City of Detroit – DOT – 14044 Schaefer Hwy

COMPANY NAME: City of Detroit

OWNER/OPERATOR: Ken Ong, Superintendent

STREET ADDRESS: 5300 Chrysler Drive

CITY: Detroit

ZIP CODE: 48211

PART 213 - ADDITIONAL SITE INFORMATION

PROJECT MANAGER: Pewu Bah-deh **DATE:** 10/19/06

SITE NAME: City of Detroit – DOT – 14044 Schaefer Hwy

SITE ID#: 82002470 **COUNTY:** Wayne

COMPLETE EACH OF THE FOLLOWING ITEMS FOR ALL NEW AND RE-SCORED SITES:

1. DIVISION TO CONTACT: CIRCLE THE DIVISION OF THE DEQ WHICH IS TAKING THE LEAD IN THE CLEANUP OF THE SITE (CHECK ONE):

- RRD** = **Remediation and Redevelopment Division**
- WB** = **Water Bureau**
- WHMD** = **Waste and Hazardous Materials Division**
- GSD** = **Geological Survey Division**
- ASD** = **Administrative Services Division***

*Office of Litigation and Program Services

2. LITIGATION OR ENFORCEMENT SITE (CHECK ONE):

- Litigation**
- Enforcement**
- N/A**

3. IF THE SITE IS SOLELY STATE OWNED, CHECK THE SPECIFIC DEPARTMENT THAT OWNS THE SITE; OTHERWISE CHECK "N/A" AND GO TO ITEM #4.

- MDOT** = **Michigan Department of Transportation**
- MDEQ** = **Michigan Department of Environmental Quality**
- MDOC** = **Michigan Department of Corrections**
- MDMH** = **Michigan Department of Mental Health**
- MDMA** = **Michigan Department of Military Affairs**
- N/A** = **Not Applicable**

4. TAX REVERTED PROPERTY: **YES** **NO**

5. LEAD DIVISION CONTACT PERSON: Pewu Bah-deh
(Project Manager)

6. PHONE NUMBER FOR ITEM #5: 313-456-4673

FOR DATA ENTRY USE ONLY:

QA/QC DATE: 10/23/06

ENTRY DATE:

**FIGURE 1
SITE SCORING SHEET**

City of Detroit - DOT - 14044 Schaefer	82002470	Wayne	37
Site Name	Site ID	County	Score

CATEGORY					CATEGORY SUBSCORE
Environmental Contamination (20 points Max.)	Environmental Media	Potential Contamination	Suspected Contamination	Confirmed Contamination	Human Exposure
	Soils	1	3	⑥	9
	Ground Water	1	3	⑥	9 to 20
	Surface Water	1	3	6	9 to 20
	Air	1	3	6	9 to 20
					12

Mobility Ratings (5 points Max.)	1	or	3	or	⑤	5
-------------------------------------	---	----	---	----	---	----------

Sensitive Environmental Resources (3 points Max.)	Natural Communities	Uncommon	Rare	Extremely Rare	
	Plants/Animals	Special Concern	Threatened	Endangered	
	One occurrence	1	2	3	
	Two occurrences	2	3	3	
	Three or more	3	3	3	
					0

Population (4 points Max.)	Density (persons per square mile)	Points	
	1 - 10	1	
	11 - 100	2	
	101 - 1000	3	
	1001 or more	④	
			4

**FIGURE 1
SITE SCORING SHEET - Continued**

City of Detroit - DOT - 14044 Schaefer	82002470	Wayne	37
Site Name	Site ID	County	Score

CATEGORY	CATEGORY SUBSCORE
-----------------	------------------------------

Institutional Population (1 point Max.)	Presence of one or more institutions in target area
	(1)
	1

Chemical Hazard Method A	Concentration/ Cleanup Criteria Ratio	Points
	1.01 - 4.9	3
	5 - 9.9	5
	10 - 49.9	7
	50 - 99.9	9
	100 - 499.9	11
	500 - 1000	13
	> 1000	(15)
		15

Chemical Hazard Method B Unidentified Chemical(s)	Quantity of Waste (Cubic meters or acres)		Waste Class			
			D	C	B	A
	<50	< 0.5	3	5	7	9
	50 - 500	0.5 - 10	5	7	9	11
	501 - 2,500	11 - 60	7	9	11	13
	> 2,500	> 60	9	11	13	15
						0

Special Wastes	Severely Toxic Waste = 15	15
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Total Possible Points = 48	Total Site Score	37
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Scored By <u>David Gregory</u>	Date <u>10/19/2006</u>
--------------------------------	------------------------

FIGURE 2
SITE SCORING DOCUMENTATION SHEET

Site Name: City of Detroit - DOT - 14044 Schaefer

A. Environmental Contamination Category:

SOILS: Confirmed Contamination. 6 points.

Confirmed contamination of soil due to elevated levels of VOCs, PNAs, and heavy metals.

GW: Confirmed Contamination. 6 points.

Confirmed contamination of GW due to elevated levels of VOCs and PNAs

SW: None. 0 points.

Air: None. 0 points.

B. Mobility Rating Category:

Hazardous substance in GW, SW, or Air. 5 points.

Hazardous substance in GW

C. Sensitive Environmental Resource Category:

0 points:

D. Population Category:

1,001 or more persons per square mile, 4 points.

>1000

E. Institutional Population Category:

1 point.

Monneir School

F. Chemical Hazard Category:

Method A: 8400 ppb Benzene, ratio = 1680, 15 points.

Method A

Table 2
Comparison Table of Maximum Soil Concentrations
City of Detroit Department of Transportation
Coolidge Facility
Detroit, Michigan

usg/128

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (mg/kg)	Applicable RBSLs (mg/kg)	Exposure Codes	Criterion Exceeded? (Yes or No)
VOCs						
	12N SIDEWALL 6'	12/21/99	15,000	100	C	Yes
Benzene	NA	NA	ND	100	C	No
1,2-Dichloroethane	NA	NA	ND	800	C	No
Methyl tert-butyl ether (MTBE)	NA	NA	ND	10	C	No
1,2-Dibromoethane	12N SIDEWALL 6'	12/21/99	22,000	1,500	C	Yes
Ethylbenzene	12N SIDEWALL 6'	12/21/99	220,000	35,000	C	Yes
Naphthalene	12N SIDEWALL 6'	12/21/99	450,000	57,000	C	Yes
2-Methylnaphthalene	19E SIDEWALL 8'	12/23/99	53,000	16,000	C	Yes
Toluene	12N SIDEWALL 6'	12/21/99	140,000	2,100	C	Yes
1,2,4-Trimethylbenzene	12N SIDEWALL 6'	12/21/99	49,000	1,800	C	Yes
1,3,5-Trimethylbenzene	12N SIDEWALL 6'	12/21/99	130,000	5,600	C	Yes
Xylenes						
PNA's	PIPE RUN 3'	12/21/99	17,000	300,000	C	No
Acenaphthene	19E SIDEWALL 8'	12/21/99	5,300	5,900	C	No
Acenaphthylene	19E SIDEWALL 8'	12/23/99	15,000	41,000	C	No
Anthracene	PIPE RUN 3'	12/21/99	11,000	300,000	D	No
Benzo(a)anthracene	PIPE RUN 3'	12/21/99	19,000	30,000	D	Yes
Benzo(a)pyrene	PIPE RUN 3'	12/21/99	3,300	300,000	D	No
Benzo(b)fluoranthene	PIPE RUN 3'	12/21/99	4,900	27,000,000	D	No
Benzo(g,h,i)perylene	PIPE RUN 3'	12/21/99	8,400	3,000,000	D	No
Benzo(k)fluoranthene	PIPE RUN 3'	12/21/99	16,000	30,000,000	D	No
Chrysene	PIPE RUN 3'	12/21/99	2,800	30,000	D	No
Dibenzo(a,h)anthracene	7N SIDEWALL 2-3'	12/30/99	7,100	730,000	C	No
Fluoranthene	7N SIDEWALL 2-3'	12/30/99	11,000	390,000	C	No
Fluorene	PIPE RUN 3'	12/21/99	12,000	300,000	D	No
Indeno(1,2,3-cd)pyrene	7N SIDEWALL 2-3'	12/30/99	480,000	57,000	C	Yes
2-Methylnaphthalene	7N SIDEWALL 2-3'	12/30/99	230,000	35,000	C	Yes
Naphthalene	PIPE RUN 3'	12/21/99	11,000	56,000	C	No
Phenanthrene	7N SIDEWALL 2-3'	12/30/99	20,000	480,000	C	No
Pyrene	10W BOTTOM 14'	12/21/99	71,000	400,000	D	No
METALS						
Lead						

Notes:

- A = Commercial III Soil Volatilization to Indoor Air
- B = Commercial III Infinite Source Volatile Soil Inhalation
- C = Commercial III Drinking Water RBSL
- NA = Not applicable

D = Commercial III Direct Contact RBSL

ND = Not detected at or above the MDEQ method detection limit.

Table 4
 Comparison Table of Maximum Groundwater Concentrations
 City of Detroit Department of Transportation
 Coolidge Facility
 Detroit, Michigan

Chemical	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (mg/l)	Applicable RBSLs (mg/l)	Exposure Codes	Criterion Exceeded? (Yes or No)
VOCs						
Benzene	Tank 12 BOTTOM	12/21/99	8,400	5.0	C	Yes
Methyl tert-butyl ether (MTBE)	Tank 12 BOTTOM	12/21/99	39	40	C	No
1,2-Dichloroethane	NA	NA	ND	5.0	C	No
1,2-Dibromoethane	NA	NA	ND	230	C	No
Ethylbenzene	GP-10 7-12' bg	9/7/01	960	74	C	Yes
Toluene	Tank 12 BOTTOM	12/21/99	950	790	C	Yes
1,2,4-Trimethylbenzene	Tank 12 BOTTOM	12/21/99	11,000	63	C	Yes
1,3,5-Trimethylbenzene	Tank 12 BOTTOM	12/21/99	3,800	72	C	Yes
Xylenes, Total	Tank 12 BOTTOM	12/21/99	10,000	280	C	Yes
PNAs						
Acenaphthene	HA-2 6-7' bg	9/14/01	860	3,800	A, B, C	No
Acenaphthylene	NA	NA	ND	150	A, B, C	No
Anthracene	NA	NA	ND	8.5	A, B, C	No
Benzo(a)anthracene	GP-10 7-12' bg	9/7/01	19	5.0	C	Yes
Benzo(a)pyrene	GP-10 7-12' bg	9/7/01	9	2.0	C	Yes
Benzo(b)fluoranthene	GP-10 7-12' bg	9/7/01	19	5.0	C	Yes
Benzo(g,h,i)perylene	NA	NA	ND	5.0	C	No
Benzo(k)fluoranthene	GP-10 7-12' bg	9/7/01	8	5.0	C	Yes
Chrysene	GP-10 7-12' bg	9/7/01	10	5.0	C	Yes
Dibenzo(a,h)anthracene	NA	NA	ND	5.0	C	No
Fluoranthene	NA	NA	ND	210	A, B, C	No
Fluorene	HA-2 6-7' bg	9/14/01	910	2,000	A, B, C	No
Indeno(1,2,3-cd)pyrene	NA	NA	ND	5.0	C	No
2-Methylnaphthalene	HA-2 6-7' bg	9/14/01	44,000	750	C	Yes
Naphthalene	HA-2 6-7' bg	9/14/01	19,000	1,500	C	Yes
Phenanthrene	HA-2 6-7' bg	9/14/01	350	150	C	Yes
Pyrene	GP-10 7-12' bg	9/7/01	32	140	C	No
METALS						
Lead	NA	1/6/00	ND	4.0	C	No

Notes:

- A = Residential and Commercial I Groundwater Volatilization to Indoor Air Inhalation
- B = Industrial, Commercial II, Commercial III, and Commercial IV Groundwater Volatilization to Indoor Air Inhalation
- C = Groundwater Contact
- NA = Not Applicable
- ND = Not detected at or above the MDEQ method detection limit.
- * = Criterion not published to date by the MDEQ.



Remediation Division
PROJECT AUTHORIZATION

Printed under the authority of Part 201 of the Natural Resources and Environmental Protection Act, 1994, PA 451, as amended

OCT - 7 2011
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Site Name: City of Detroit-DOT-14044 Schaefer **Senate District(s):** 3, Morris Hood
Site ID#: 82002470 **Facility ID#:** 00013464 **House District(s):** 11, David Nathan
Site Address: 14044 Schaefer Avenue, Detroit
Site County: Wayne **DEQ District:** Southeast Michigan
Managing District, Section or Division for Project: Southeast Michigan
Project Manager Name: Pewu Bah-Deh
Phone Number: 586-753-3828

PROJECT DESCRIPTION

This site has operated as a transportation facility for the city of Detroit for numerous years. The site operated as many as 24 underground storage tanks which contained dextron, converter/oil, engine oil, used oil, gasoline, diesel, and water. Four confirmed releases of diesel, gasoline, and engine oil were reported. Currently, six tanks remain in use; the others have been removed or closed in place. During removal of the tanks, 2,540 cubic yards of contaminated soil and 2,800 gallons of contaminated groundwater were removed. Also 272 gallons of free petroleum product were recovered. A limited investigation indicated the contamination has migrated off site; however, due to financial restraints, the city has not conducted remedial actions to address the remaining contamination. This project includes conducting an investigation to determine the extent of contamination and actions needed to protect public health and the environment.

AMOUNT AUTHORIZED: \$150,000

APPROPRIATION: Refined Petroleum Fund

EMERGENCY/CONTINGENCY FUNDS: No

AUTHORIZATION LEVEL: Funding and Support Unit (FSU)

APPROVAL SIGNATURE:

Robert Reisner, FSU Chief


Signature

10-4-11
Date

PROJECT EXPENDITURE REQUEST

SITE NAME: City of Detroit - DOT - 14044 Schaefer

SITE ID#: 82002470

FACILITY ID#: 00013464

ADDRESS: 14044 Schaefer Avenue

CITY: Detroit

TOWNSHIP: Detroit

COUNTY: Wayne

DEQ DISTRICT: Southeast MI

SITE SCORE: 37 ACTIVITY: RI State Senator: 003

State Representative: 011

Is Request for Emergency/Contingency Funds: No

TOTAL AMOUNT OF THIS REQUEST: \$150,000

INDEX #: 44703 PRJT #: U13464 - 00

DESCRIPTION OF PROBLEM:

Acute risks due to presence of free product, soil, and groundwater contamination.

DESCRIPTION OF RESPONSE ACTIVITY:

RI and FS activities.

Factors to consider for press release:

- Cleanup activities planned
- Amount of funds to be expended
- Redevelopment potential or plans
- Sensitivity to public and political concerns
- Job creation potential

IS A PRESS RELEASE RECOMMENDED: No

EXPLANATION:

No.

Signatures Needed to Process This Request

Prepared By:

Project Manager: Pewu Bah-Deh

DATE

09/29/2011

APPROVED BY:

District Bond Coordinator or Paul Owens
District Supervisor

10/03/2011

FUNDING ANTICIPATED or AVAILABLE:

Program Support Section, Funding and Support Service Unit

Robert Beeman

10-4-11

ORIGINAL: District Supervisor

COPIES: Administration Section
Funding and Support Unit

Expenditure Req.doc
(REV 5) 3/7/05

EQ _____

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION AND REDEVELOPMENT DIVISION**

SITE SUMMARY

Site Name	City of Detroit - DOT - 14044 Schaefer	County	Wayne
Street Address	14044 Schaefer Avenue	DEQ District	Southeast MI
City	Detroit	Legislative Districts	
Site ID#	82002470	MI Senate	003
SID Facility ID	00013464	MI House	011
		US Congress	015

LOCATION

This site is located on the Northwest side of Detroit on Schaefer, just north of Schoolcraft Street. There is a salvage yard west of the site, across Schaefer. The rest of the surrounding is mostly small commercial businesses.

SITE HISTORY (Response Activities Undertaken to Date)

This site has operated as a city of Detroit Department of Transportation facility for unknown number of years. It is historically owned and managed by the city of Detroit, Department of Public Works. The site is zoned commercial and is surrounding by small commercial business establishments.

The underground storage tanks (USTs) at the site were installed between 1946 through February 2001. Of the total 24 USTs installed, 18 were either removed or closed-in-place from December 1999 to January 2000. Contents of the removed USTs included dextron, converter/oil, engine oil, used oil, gasoline, diesel, and water. The remaining six USTs are used to store diesel, gasoline, and used oil. The capacities of the 24 USTs ranged from 500 gallons to 50,000 gallons.

A total of four confirmed releases have been reported for the site, at the site (3 in 1999 and 1 in 2000). The released products consisted of diesel, gasoline, and engine oil. In 2000 a diesel transfer pipe failed and resulted in a significant release of product near the building which caused the evacuation of the building. In addition to these releases, free product was discovered in MW-15 in April 2003.

Prior to the 2000 release, 2,540 cubic yards of impacted soil and 2,800 gallons of contaminated groundwater were excavated and disposed of during USTs removal. A total of 272 gallons of free product was also recovered. The limited investigation conducted at the site indicate that 24 temporary wells and nine permanent monitor wells were installed. Soil data from some of the 24 soil borings installed, indicate that the contamination has migrated off-site, therefore, a Notice of Off-Site Migration was filed with the DEQ.

Reports submitted to the DEQ to date include an Initial Assessment Report, a Final Assessment Report, and two Free Product Status Reports. The site is currently considered out of compliance with Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Response Act, Act 451 of 1994, as amended. The city of Detroit has not conducted any response actions since 2003. The city has been determined to be a non-viable liable party.

SITE STATUS (Risks Requiring Action)

Extensive free product is present at the site and the extent is not defined. Overall, the extent of soil contamination has not been defined. Additional remedial actions are needed to determine the risks posed by the free product and heavily impacted soils to off-site properties. Assessment of the vapor intrusion pathway is needed.

STATE FUNDS ALLOCATED FOR CLEANUP ACTIVITIES*: \$150,000.00

UNMET NEED			
FY	Activity	Amount Needed	Comments
2013	IR	\$250,000	mitigate free product and grossly contaminated soils

*State funds are set aside to complete activities at this site but may not be expended.

APPENDIX J



Photo 1: Looking northeast from near Schaefer Hwy. at the Subject Property Main Building which is located at 14044 Schaefer Highway in Detroit, Michigan. The Coolidge Bus Terminal formerly occupied this portion of the Subject Property.



Photo 2: Looking northwest at the rear side of the former Coolidge Bus Terminal building, which was originally constructed in 1928 as a streetcar maintenance facility and was converted to bus maintenance and storage in 1947.



Photo 3: Looking north at the former Fare Box Building (left) and Heating Plant Building (at right adjacent to stack). Guy wires for the onsite antenna tower are also visible.



Photo 4: Looking northwest at the former Terminal Building, which is located in the northwest portion of the Subject Property. This building is connected to the Main Building through an underground tunnel.



Photo 5: Looking north at a former residential dwelling located in the southwestern portion of the Subject Property along Compass Street. This dwelling is now abandoned and in severe disrepair, and was not physically entered.



Photo 6: Looking northwest at an occupied residential dwelling located at 13500 Compass Street in the southern portion of the Subject Property. Vacant land adjoins this portion of the Subject Property to the west, south, and east.



Photo 7: Looking north at vacant land at 13366-13374 Compass Street in the southern portion of the Subject Property. The east adjoining properties contain more vacant land as well as an occupied dwelling at 13350 Compass Street.



Photo 8: Looking southwest at an abandoned dwelling located at 14023 Ward Avenue in the eastern portion of the Subject Property. Vacant land and illegal dumping of household refuse were observed throughout this area.



Photo 9: Looking southwest at a vacant dwelling located at 14045 Ward Avenue in the eastern portion of the Subject Property. The west end of Kendall Street where it meets the bus terminal property is seen at right.



Photo 10: Looking northwest at a vacant residential dwelling located at 14101 Ward Avenue in the eastern portion of the Subject Property, just north of Kendall Street.



Photo 11: Looking west at discarded items in a vacant parcel in the eastern portion of the Subject Property. Illegal dumping was observed throughout this area of the Subject Property.



Photo 12: Looking west at an abandoned residential dwelling located at 14151 Ward Avenue in the eastern portion of the Subject Property. Fire damage was evident within the structure and it appeared unsafe to enter.



Photo 13: Looking northwest at an overgrown lot located at 14167 Ward Avenue in the eastern portion of the Subject Property. No occupied dwellings were present at the Subject Property along Ward Ave.



Photo 14: Looking southwest at an overgrown and vacant formerly residential area along Ward Avenue in the northeast portion of the Subject Property. The dwelling seen at left is located at 14173 Ward Avenue and was marked condemned as dangerous and unsafe.



Photo 15: Looking north at a gasoline dispenser near the 12,000-gallon gasoline underground storage tank (UST) located north of the Main Building. A 10,000 to 12,000-gallon gasoline UST is located in this area. Historical records are conflicting whether this tank is actually 10,000 or 12,000-gallon capacity.



Photo 16: Looking west at the access covers above the diesel underground storage tanks (USTs). Four 25,000-gallon diesel USTs installed in 2001 are located in this area.



Photo 17: Looking northeast at the automatic tank gauge which serves the nearby underground storage tanks. Clean Fuel Solutions personnel were present onsite during the site reconnaissance and indicated the diesel USTs are constructed of steel with no cathodic protection system.

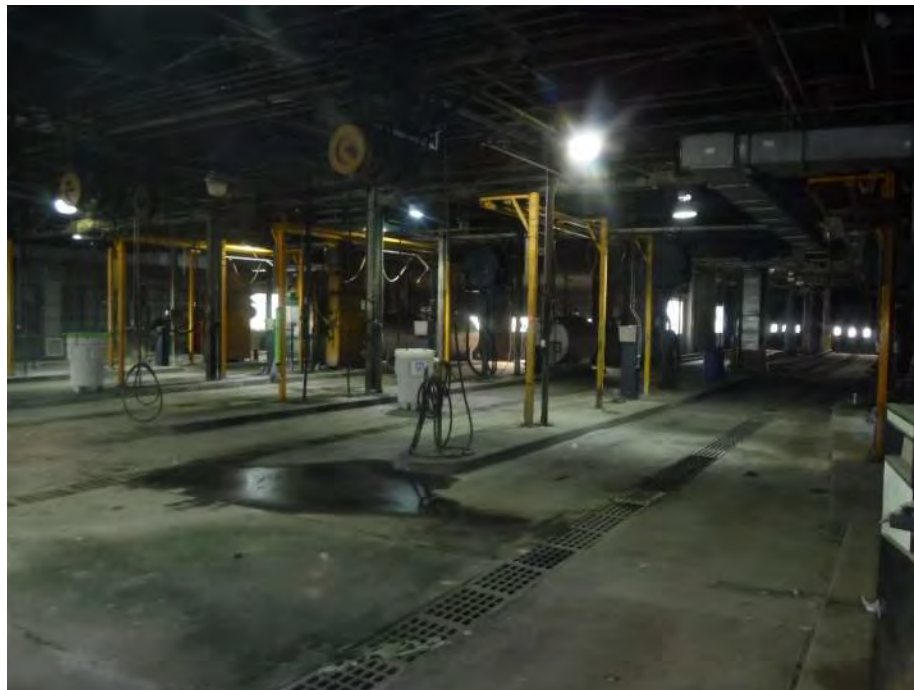


Photo 18: Looking northeast within the gas house portion of the Main Building. Oil staining was present on the concrete flooring in this area. The concrete floor was cracked and deteriorated.



Photo 19: Looking south (and downward) beneath one of the five removed diesel fuel dispensers. Apparent dyed diesel fuel was observed in the dispenser sump at this location.



Photo 20: Looking northeast at an oil stain in the southwest portion of the gas house. The oil had migrated into a nearby crack in the concrete as well as trenches in the area.



Photo 21: Looking west at the southern portion of the gas house which contained the gasoline fueling area. A hydraulic lift was also present within this area (at grade in left bay).



Photo 22: Looking southeast at a gasoline dispenser in the southern portion of the gas house.



Photo 23: Looking southwest (and downward) beneath the gasoline dispenser in the southern portion of the gas house. Unknown fluids were present within the dispenser sump at this location.



Photo 24: Looking east at open trenches in the maintenance area of the Main Building. Grating which formerly covered the trenches had been removed in several areas.



Photo 25: Looking northeast at sand from an unknown location which was present on the concrete floor throughout the eastern portion of the maintenance area of the Main Building.



Photo 26: Looking southeast at 55-gallon drums of transmission fluid and unknown contents in the eastern portion of the maintenance area of the Main Building.



Photo 27: Looking southeast at 55-gallon drums of apparent transmission fluid and unknown contents in the eastern portion of the maintenance area of the Main Building.



Photo 28: Looking northeast at a hydraulic fluid reservoir (far left) and deteriorated 55-gallon steel drum located between the maintenance area and gas house in the northern portion of the Main Building. The roof was deteriorated in this area which allowed water to infiltrate.



Photo 29: Looking northeast at the pump room in the western portion of the maintenance area within the Main Building. Various lubricants and waste remained within 30 and 55-gallon steel drums in this area.



Photo 30: Looking northeast at a trench within the maintenance area of the Main Building, which was formerly used to access the underside of buses during maintenance such as oil changes. Oily water was observed within this and several other trenches in the vicinity.



Photo 31: Looking east at the fire damaged portion of the former coach storage area within the Main Building.



Photo 32: Looking southeast at engine oil aboveground storage tanks located in the gas house portion of the main Building. De minimus staining of the surrounding concrete floor was observed in this area.



Photo 33: Looking southwest at a 1,500-gallon antifreeze aboveground storage tank and several empty 250-gallon and 275-gallon totes stored north of the gas house portion of the Main Building.



Photo 34: Looking southwest at an in-ground oil water separator to the east of the bus wash portion of the gas house, which is located in the northern portion of the Main Building.



Photo 35: Looking northwest at an in-ground oil water separator located east of the maintenance area portion of the Main Building. The metal cover was welded in-place which prohibited further assessment.



Photo 36: Looking northeast at the former bus storage area in the eastern portion of the Site, to the east of the Main Building, Fare Box Building, and Heating Plant Building.



Photo 37: Looking east at the southern portion of the Subject Property, to the south of the Main Building coach storage area. A residential area along Compass Street is located to the right beyond the concrete wall.



Photo 38: Looking northwest at the concrete paved area west of the Main Building at the Subject Property. The former Dispatch Building is seen at left in the background, and the Terminal Building is seen to its right. Both are located along Schaefer Hwy.



Photo 39: Looking southwest at the location of a waste oil underground storage tank to the west of the maintenance area of the Main Building.



Photo 40: Looking southwest at the northern portion of the Gas House portion of the Main Building. Gasoline odors were noted in the storm sewer catch basin in the bottom central portion of the photo, beneath the scrap steel.



Photo 41: Looking southwest at Danny's Auto Parts which adjoins the Subject Property to the west and southwest.



Photo 42: Looking northwest at the O.H. Frisbie Moving and Storage Company which adjoins the Subject Property to the northwest.



Photo 43: Looking northeast at the O.H. Frisbie Moving and Storage Company which adjoins the Subject Property to the north.



Photo 44: Looking northwest at a former electrical shop located at 13200 Intervale Street which adjoins the Subject Property to the northeast.



Photo 45: Looking southeast at vacant land along Ward Ave. which adjoins the Subject Property to the east.



Photo 46: Looking southeast at primarily vacant dwellings and overgrown parcels along Ward Ave. to the southeast of the Subject Property.



Photo 47: Looking north at vacant parcels along Compass Street which adjoin the Subject Property to the southeast.



Photo 48: Looking northeast at occupied and abandoned residential dwellings along Compass Street which adjoin the Subject Property to the southeast.



Photo 49: Looking southwest at vacant land and the unused portion of Littlefield Street which adjoins the Subject Property to the south.



Photo 50: Looking northwest at vacant land owned by the El Beth Church located north of Compass Street and east of Schaefer Hwy which adjoins the Subject Property to the southwest.

APPENDIX K

SCOTT G. PARK, C.P.G.

ENVIRONMENTAL DEPARTMENT MANAGER



Mr. Park is a Senior Geologist responsible for project supervision and management, client contact, evaluation and assessment of contaminated sites, coordination of field efforts, preparation of reports, and oversight of staff. His areas of specialty include former Manufacture Gas Plants (MGPs), underground storage tank (UST) regulations – Michigan’s Part 213 of Public Act 451; site investigations and closures – Part 201 of Michigan’s Public Act 451; Phase I/II environmental site assessments and baseline environmental assessments – Part 201 of Michigan’s Public Act 451; groundwater contamination and remediation; soil contamination and remediation; RCRA facility investigation.

EDUCATION

MS, Geology, Western Michigan University, 1987
 BA, Geology, Albion College, 1984
 ASFE Fundamentals of Professional Practice #16
 Magna cum Laude

REGISTRATIONS

Certified Professional Geologist, AIPG #10371

AFFILIATIONS

American Institute of Professional Geologists (AIPG)
 Western Michigan University Faculty
 Lansing Community College Faculty
 Lansing/Dewitt Sunrise Rotary Past President

SPECIAL TRAINING

PSMJ Project Manager Training, 2015
 40 Hour OSHA 29 CFR HAZWOPER Trained
 8 Hour OSHA Annual Refresher Health and Safety Training

**Work with Previous Employer*

Mr. Park has been the principal investigator and project manager for industrial and underground storage tank projects, and bedrock, soil and groundwater site investigations, including multiple aquifer evaluations throughout Michigan and has prepared RIFS, Remedial Action Plans, No Further Action reports, and underground storage tank site assessment documentation including initial and final assessment reports and closure reports in accordance with Part 213 of Act 451. Mr. Park’s experience also includes on-site geologist/coordinator for numerous groundwater and soil sampling events and monitoring well installations.

Mr. Park has provided project management and supervisory experience for more than 500 Transaction Due Diligence assessments in Michigan and Ohio, including extensive multiple city block assessments in urban and commercial districts in Michigan. He managed field exploration and report preparation relating to the completion of Category N, D, & S Baseline Environmental Assessments (BEAs) in accordance with Part 201 of Act 451, including both submittals for disclosure purposes or with application for adequacy determination.

PROJECT EXPERIENCE

PHASE I ESA/TRANSACTION DUE DILIGENCE

- **Standard Federal Bank/Lasalle Bank/Bank of America** – Project Manager and staff geologist for over 200 Phase I ESAs on behalf of various financial institutions in Michigan. Projects covered vacant greenspace, to large industrial and commercial businesses, and included purchases, refinances and bank foreclosures. *

- **Demmer Corporation** – Project Manager for over 20 Phase I ESAs and multiple BEAs for Demmer Corporation redevelopment in Michigan, Minnesota and South Dakota. *
- **7-Eleven, Various Locations in Michigan** – Staff Geologist for completion of 15 BEA and Due Care Plans on behalf of 7-Eleven for the purchase and redevelopment of 15 retail gas stations in Michigan. *
- **Michigan Department of Transportation** – Staff Geologist for completion of Phase I ESA, BEA and Due Care plan for the purchase of a large 100 acre former industrial facility, and historic 1812 battle field in Monroe, Michigan. *

MANUFACTURED GAS PLANTS (MGP)

- **Manufactured Gas Plant (MPG)** – Prior to joining DLZ in July 2015, Mr. Park was a Senior Geologist and Project Manager with AECOM. His experience at AECOM includes being the Project Manager of Five Michigan MGP sites for **Consumers Energy** that included Remedial Investigation (RI) reporting, exposure pathway analyses, source remediation, deed restrictions and No Further Action (NFA) reports. *

MUNICIPAL BROWNFIELD

- **RCRA Brownfield Site, Lansing, Michigan.** Project Manager and Principal Investigator for industrial redevelopment of one of Michigan's first brownfield sites. The project entailed initial due diligence investigations including Phase I, Phase II studies, Category S baseline environmental assessments, and subsequent RCRA facility investigation and proposed RCRA corrective measures. Project involved exposure pathway evaluations and fate and transport of volatile organics in groundwater and potential risks to third parties and municipal water supply systems. *
- **Arcadia Creek Corridor - Phase II Environmental Assessment, Kalamazoo, Michigan.** Project Manager and Principal Investigator of an extensive Phase II assessment for business redevelopment of nine square blocks. This project included identification and definition of six groundwater contaminant plumes and multiple areas of soil contamination through the installation of 58 monitor wells and the drilling of numerous soil borings. *
- **Arcadia Creek Corridor –Soil Remediation, Kalamazoo, Michigan.** Project Manager for soil remediation on three city blocks for downtown Brownfield Redevelopment. *
- **Township of Owosso, Brownfield Site, Owosso, Michigan.** Project Manager and Principal Investigator of a 60-acre abandoned industrial brownfield property. Project included preparation of a brownfield revitalization loan on behalf of the township, soil and groundwater investigation, geophysical investigation, free product identification and evaluation, and completion of a Category S baseline environmental assessment on behalf of proposed new property owners. The BEA, involving use of designed engineered controls was approved for adequacy by the MDEQ. *

LEAKING UNDERGROUND STORAGE TANK SITE

- **Waterford Township Parks & Recreation LUST Closure.** Project geologist involved in contaminant and geological review and interpretation of a Leaking Underground Storage Tank closure. Closure included LIF/UVOST data used to delineate residual contamination on private property and MDOT Right-of Way.

Closure included the preparation of an MDOT Technical Summary Report and approved MDOT Licensing Agreement.

- **Michigan Department of Environmental Quality (MDEQ), Superstop #9, Lansing Michigan.** Project Manager for a Part 213 LUST investigation of a highly contaminated active gasoline station in Lansing. DLZ was retained to evaluate exposure risks including vapor intrusion as a result of both residual and mobile LNAPL under the station and adjacent to residential homes. The investigation completed in 2016 included the delineation of LNAPL and its migration, and the installation and sampling of 12 vapor points for vapor intrusion assessment.
- **Michigan Department of Environmental Quality (MDEQ), Former Frank’s Service, Durand Michigan.** Project Manager for a Part 213 LUST investigation of a former gasoline station, now converted into a restaurant. After completion of an interim response excavation, DLZ was retained to monitor groundwater impacts and evaluate ways to enhance natural attenuation of contaminants. A sulfate based chemical “Nutrisulfate” was selected to increase the anaerobic bioattenuation. DLZ oversaw the injection of 1,000 gallons into the impacted zone of groundwater. Initial results show good distribution of the product and increased contaminant attenuation.
- **Michigan Department of Environmental Quality (MDEQ), Herricks Service & Grocery, Owosso Michigan.** Project Manager for a Part 213 LUST investigation of a former gasoline service station converted into a residential home. The project included a Remedial Investigation designed to assess exposure risks to residential occupants including vapor intrusion and drinking water. Results confirmed the historical attenuation of contaminants and no evidence of exposure risks to occupants.
- **Michigan Department of Environmental Quality (MDEQ), Gregory Market, Gregory Michigan.** Project Manager for a large scale Part 213 LUST investigation of both bedrock and glacial aquifers in a multi-block area of Gregory Michigan. The project has included a Remedial Investigation, Feasibility Study, Remedial Design, System Installation Oversight and Operation and Maintenance. Ongoing groundwater treatment of the glacial aquifer includes the use of nutrient enhanced low flow biosparging to aid in the bio-attenuation of gasoline related groundwater impacts adjacent to and beneath commercial buildings while reducing effects of volatilization. *
- **MDEQ, Lakeland Montessori School, Lakeland Michigan.** Project Manager for this Part 213 LUST project involving both source remediation and groundwater treatment with InSitu Chemical Oxidation (ISCO). Source Remediation involved engineering design, and oversight of dewatering, excavation and disposal of highly contaminated source soils with support design of an adjacent state highway and the Montessori School building. Subsequent groundwater treatment has included the use of ISCO injection to enhance the oxidation and biological attenuation of gasoline related contaminants and installation and the installation of a granular activated carbon (GAC) barrier to reduce concentrations of VOCs venting into adjacent surface water. *
- **MDEQ, D&L Fuels, Charlotte Michigan.** Project Manager for this Remedial Investigation involving the evaluation of comingled plumes from both USTs and an AST bulk fuel facility. Upon demonstrating the comingling and source locations, the RI included Laser Induced Fluorescence (LIF) technology to evaluate the vertical and horizontal extent of NAPL originating from the multiple source locations. Vertical Aquifer

Profiling was then completed to evaluate the extent of the dissolved plumes. Source Remediation involved engineering design, and oversight of dewatering, excavation and disposal of highly contaminated source soils with support design of an onsite commercial building. At DLZ Scott has continued to manage the source area RI and interim response including LNAPL delineation and the use of multi-phase extraction (MPR) to abate remaining free phase LNAPL.

- **MDEQ, Clark #2128, Brighton, Michigan.** Project Manager for this Part 213 LUST project involving the investigation of NAPL gasoline identified by the current owner during a BEA investigation, and the unrestricted use of private water wells on nearby properties. The objective of the investigation was to evaluate if impacted groundwater, and/or free phase product are posing an immediate threat and acute hazard to receptors in the area. The project included the definition of both vertical and lateral plume boundaries. Confirmed attenuation of groundwater plume prior to reaching any receptors. Confirmed that on-site and adjacent private drinking water wells were not impacted by release at site. Achieved confirmation of no completed exposure pathways. *
- **MDEQ, Oasis Truck Stop, Hartland, Michigan.** Project Manager for this Part 213 LUST project involving the investigation of gasoline and heavy oils released from the former truck stop and repair garage. The investigation has included contaminant migration along two water bearing units and site geology ranging from glacial outwash sands to peat deposits. Results indicate that adjacent private water wells have not been impacted and that no completed exposure pathways exist. *

LANDFILL INVESTIGATION/HYDROGEOLOGY

- **Waste Management Peoples Landfill, Birch Run Michigan** - Principal Investigator for a large scale landfill hydrogeology investigation involving potential leachate migration from a former Act 87 waste cell into adjacent surface water. The investigation included a detailed analysis of stratigraphy, groundwater migration, and seasonal geochemical analyses of both surface water and groundwater. The results prompted the proposal and subsequent construction of a impermeable landfill cap and slurry wall around the former Act 87 cell. Due to the project complexity of the results and corrective action, a presentation was made to the MDEQ WHMD Quality Review Team (QRT), and the subsequent Final Assessment Report (FAR) was approved by the MDEQ. *
- **Waste Management Tri-City Landfill, Carsonville, Michigan** – Project Manager for a hydrogeological investigation completed for cell expansion permitting. The investigation and reporting included evaluating aquifer characteristics beneath and surrounding the landfill, in-depth evaluation of site geology including distribution of confining strata, and local groundwater chemistry. *
- **Consumers Energy BC Cobb Ash Landfill, Muskegon Michigan** – Principal Geologist for the site evaluation including potential offsite surface water discharges of metals originating from coal ash placement. The project resulted in the preparation of a Remedial Action Plan, approved by the MDEQ, and the subsequent installation of a slurry wall around the ash landfill to eliminate offsite groundwater migration. The successful abatement efforts resulted in the property being redeveloped into municipal recreational facilities.

BEDROCK INVESTIGATION

- **Michigan Department of Environmental Quality – Gregory Market, Gregory Michigan** - Project Manager for a bedrock investigation, involving the potential migration of hydrocarbons into the shallow drinking water bedrock aquifer. The investigation involved coring and logging the upper 75 feet of the Pennsylvanian age Marshall Sandstone, vertical aquifer sampling using inflatable packers, and installation of six bedrock monitor wells. The investigation trace concentrations of chemicals in the bedrock aquifer, unrelated to the local petroleum impacts.
- **Thermos Factory – Norwich Connecticut** - Field manager and principal site geologist for the investigation of migrating DNAPL (TCE) in fractured bedrock in Connecticut. The six month investigation included bedrock coring and logging, vertical aquifer sampling using inflatable packers, and monitor well installation in bedrock horizons showing highest dissolved DNAPL concentrations.*

WATER RESOURCES

- **MURCO Foods, Plainwell Michigan** - Principal geologist and project manager of long term monitoring of groundwater impacts resulting from land application of waste generated at the beef processing facility. Many years of land application of process waste waters resulted in groundwater impacted with elevated nitrate, phosphorous and ammonia. After converting to a waste water treatment facility in 2000, processes of phytoremediation and natural attenuation have resulted in a contaminant reduction of at least 80% in the potable aquifer and have greatly reduced exposure risk to impacted groundwater. Groundwater monitoring continues through monitoring well and residential well sampling.

LITIGATION AND EXPERT WITNESS

- **Fred's Tire & Auto, Fowlerville, Michigan.** Project Manager for evaluation of potentially responsible party and source locations regarding commingling of groundwater contaminant plumes at adjacent sites. The evaluation included forensic analysis of gasoline free product (NAPL) for relative age dating of releases. Litigation support was provided for issues relating to identification of responsible party for investigation and remediation of groundwater contaminated with gasoline free product (NAPL). *

PUBLIC FORUMS AND PRESENTATIONS

- **Municipal Well Field Vulnerability Assessments.** Coordinator and certified instructor of municipal well field vulnerability assessments, as governed through the Department of Homeland Security. Instruction through Inter Tribal Council at municipalities in Michigan, Wisconsin and Minnesota. *
- **Michigan Department of Environmental Quality, Birch Run Michigan.** Presented corrective measures proposal relating to leachate containment for a solid waste landfill. Presentation led to DEQ approval of the remedial action plan (RAP). *



EDUCATION

B.S. Civil and Environmental Engineering, Michigan State University

SPECIAL TRAINING

MDOT Field Book / Field Manager Training – 2006

MDOT Materials Process and Acceptance Seminar – 2010

MDEQ Certified Storm Water Operator – 2002

Radiation Safety Officer / Instructor 2010

Radiation Safety Training Program for Density Gauges on August 2002

PSMJ A/E/C Project Management Bootcamp – 2008

OSHA 40-hour HAZWOPER training and All Current 8-Hour Refreshers

Must Safety Program

OSHA Confined Space Entry Training – 2003

** Work with Previous Employer*

DOR'MARIO L. BROWN

CONSTRUCTION DIVISION MANAGER

Mr. Brown is a highly talented professional and dedicated Civil Engineer with more than 19 years of experience in consulting engineering. He has supervised construction monitoring, materials testing, and quality control for construction projects throughout Michigan. Mr. Brown has managed multi-discipline, multi-million-dollar construction projects. Typical construction operations included foundation installations (caissons, friction piles, auger cast piles, mat foundations, micropiles, and shallow footings), fill placement (and other earthwork), concrete operations, grout / masonry applications, and asphalt paving for roadways and parking lots. Projects included multi-story office buildings, manufacturing facilities, hotels, shopping centers, large warehouses, department stores, communications towers, utility installations, and roadway certifications.

Most Notable Project: Mr. Brown worked extensively on the Detroit Multi site Demolition project which consisted of property surveys, asbestos and lead sampling, hazardous material surveys, and demolition oversight of over 23 industrial / commercial building throughout the city of Detroit. Mr. Brown was featured in a news article in the Detroit Free Press during the demolition of the former Detroit Lead Smelter Plant on E. Nevada. Mr. Brown was responsible for the field oversight and project management of the demolition of this facility.

Mr. Brown has also managed and performed environmental site feasibility studies related to the assessment of underground storage tanks (UST), environmental clean-ups and hydrogeologic investigations, tank removals and site closures. Evaluated options and feasibility in developing remedial investigations, work plans, and their implementation. Performed field reconnaissance, observed installation of groundwater monitoring wells, and interpreted hydrogeologic data. Coordinated environmental sampling of soil, groundwater, and interpretation of analytical data relating to petroleum hydrocarbons, volatile organic compounds, heavy metals and other chemical substances. His work also involves extensive client contact, including contract management, program development, and assisting clients in negotiations with federal, state and local regulatory agencies. Mr. Brown specializes in ESA and PCA surveys, subsurface investigations, and remediation system installation.

PROJECT EXPERIENCE

- **City of Ann Arbor Waste Water Treatment Plant, Ann Arbor, Michigan.*** Project Manager. Construction observation and material testing for the Waste Water Treatment Plant. Included daily oversight of quality control reporting on measurements and computations, scheduling and oversight of material testing, and complete project documentation. (2017)

- **MDOT-Miller Road, M-14 to Maple Sidewalk, Ann Arbor, Michigan.*** Project Manager. Construction inspection services for the reconstruction of Miller Road. Work included construction and materials testing: Concrete, aggregates, density, HMA on concrete road reconstruction (2017)
- **Springwells Water Treatment Plant, Detroit, Michigan.*** Project Manager. Construction inspection services for the Water Treatment Plant to include interior below ground structures. Project involved soil borings, concrete testing, site survey, GPRS, masonry observation and engineering consulting for the Water Treatment Plant. Included daily oversight of quality control reporting on measurements and computations, scheduling and oversight of material testing, and complete project documentation.
- **Evergreen Road, 9 Mile to Northwestern Highway, Southfield, Michigan.*** Project Manager. Construction inspection services for the reconstruction of Evergreen Road. Quality Control on concrete and beam break testing. (2017)
- **City of Dearborn As-Needed Engineering Services, Dearborn, Michigan.*** Project Manager. Provided as-needed construction observation and material testing for the City of Dearborn. Included soil borings, petrographic analysis, oversight of quality control reporting on measurements and computations, scheduling and oversight of material testing, and complete project documentation. (2018)
- **MDOT-Schaefer Road, Dearborn, Michigan.*** Project Manager. Construction inspection services for the reconstruction of Schaefer Road. Work included construction and materials testing: Concrete, aggregates, density, HMA on concrete road reconstruction. (2018)
- **Wayne State University, Multidisciplinary Biomedical Research Building, Detroit, Michigan.*** Project Manager. This project features nearly 200,000 square feet of space for about 500 researchers and staff and 68 principal investigators. It included wet and dry laboratories, and faculty offices Construction Oversight. (2015)
- **City of Detroit Public Safety Headquarters, Detroit, Michigan.*** Project Manager. This project included the construction of and completely renovating and converting the former MGM temporary casino facility into the City of Detroit's New Public Safety Headquarters. Retrofit new building with old buildings to check the concrete and re-steel for the final design and implementation for the rehabilitation of the building structure during construction. (2018)
- **MDOT-Beech Daily Road from Eureka to Brest, Taylor, Michigan.*** Project Manager. Construction and materials testing: Concrete, aggregates, density, HMA. (2016)
- **MDOT-Schaefer Road between Ford Road and Michigan Avenue, Dearborn, Michigan.*** Project Manager. Construction and materials testing: Concrete, aggregates, density, HMA. (2016)
- **City of Ann Arbor West Madison Street Improvement Project, Ann Arbor, Michigan.*** Project Manager. Construction and materials testing: Concrete, aggregates, density, HMA. (2018)
- **City of Novi, 2013 Neighborhood Roads Project, Various Locations, Novi, Michigan.*** Project Manager. Construction and materials testing: Concrete, aggregates, density, HMA. (2018)

- **Connor Creek CSO, Detroit, Michigan.*** Construction coordinator for inspection services for the combined sewer overflow structures to include interior and exterior below ground structures. Project involved soil borings, concrete testing, site survey, GPRS, masonry observation, re-steel, and other engineering consulting.
- **The Corradino Group, Detroit, Michigan. Detroit International River Crossing.*** Construction coordinator to collect relevant geotechnical data and evaluate conceptual designs for a cable-stayed bridge, suspension bridge, or tunnel. The program included computer modeling effort that determined the size and extent of cavity that may be subject to collapse through complex three-dimensional finite difference analysis. Included implementing the results of the geophysical modeling program. Program of cross-well seismic imaging was selected, supplemented by vertical seismic profiling, and down-hole geophysical logging. Assisted to develop the final submittal to the Federal authorities.
- **City of Dearborn CSO Contract 7 & 8 Dearborn, Michigan.*** Project Manager. For the construction installation for deep underground sewer structures. Completed installation with observation and material testing for the City of Dearborn combined sewer program. Included structure rehabilitation, petrographic analysis, oversight of quality control reporting on measurements and computations, scheduling, safety program and oversight of material testing, and complete project documentation.
- **Executive Drive Concrete Reconstruction, Macomb County, Michigan.*** Provided Construction observer role with complete engineering inspection, survey, and materials testing services for an economic development project on 1.03 miles of concrete road reconstructing with drainage improvements and new sidewalk. Mr. Brown provided Construction Engineering services including pre-construction services, progress and other required meetings, daily on-site construction observation including concrete pavement placement, storm sewer installation, water main and fire hydrant installation, material testing and assistance with construction survey services, daily quantity tracking and postings using Field Manager, and full project documentation.
- **City of Lansing CSO Program, Michigan.*** Construction coordinator for the installation of the storm sewer piping, storm sewer tap in, Soil Erosion Sedimentation Control reporting and the implementation of the newly adapted policy of Geo-fabric wrapping of the open joints in the Reinforced Concrete Pipe. Storm pipe sizes ranged from 12 inch to 42 inch. Also coordinated density testing on the compacted backfill, developed the punch list, and reviewed as-built drawings.
- **Selfridge Air National Guard Base, Mt. Clemens, Michigan.*** Project Manager for repair of Squadron Building and Logistics Command Post to include site utilities. Coordinated with contractor and owner, job progress meetings, punch list and punch list review.
- **Greek Town Casino, Detroit Michigan.*** Project Manager for the 31-story post tension concrete building construction.

EDUCATION

B.S./Geography/2004
(Michigan State University)

SPECIAL TRAINING

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Training; 2005

OSHA 8-Hour Hazardous Waste Operations and Emergency Response Refresher; Current

OSHA 8-Hour Hazardous Waste Operations Supervisor Training; 2017

OSHA 30-Hour Construction Safety and Health; 2008

OSHA Training Institute – 510: Occupational Safety and Health Standards for the Construction Industry; 2012

Construction Management Association of America University; Construction Safety and Health; 2010

Michigan Asbestos Building Inspector; 2006-2016

Michigan Lead Inspector/Risk Assessor - 2006

U.S. Department of Transportation – Hazardous Materials Transportation; 2008

RCRA/Department of Transportation Training for Generators of Hazardous Waste; 2016

CPR and First Aid; 2017

**Work with Previous Employer*

DANIEL T. MCNEELY

ENVIRONMENTAL SCIENTIST

Mr. McNeely has over 14 years of professional experience in environmental, health, and safety compliance; construction, decommissioning, and demolition management; due diligence; environmental remediation; and infrastructure upgrade projects for federal, industrial, commercial, and municipal clients. He has extensive experience performing site assessments, environmental sampling, building characterization, remedial actions, indoor air quality assessments and industrial hygiene, cost estimating, waste management, and coordination of multiple tiers of subcontractors and contractor oversight.

PROJECT EXPERIENCE

- **Zephyr Remedial Action, Former Zephyr Refinery – Fire Suppression Ditch, Muskegon, Michigan; U.S. Environmental Protection Agency Great Lakes National Program Office.** Construction Oversight. Performed construction oversight during remediation of contaminated sediments within a wetland adjacent to the Muskegon River, as well as subsequent wetland habitat restoration activities. Remedial design included relatively dry excavation of contaminated sediments, in situ treatment of characteristically hazardous sediments (lead), dewatering, water treatment, and offsite disposal of contaminated sediments. Assisted with community outreach, including participation in public meetings and coordination with local stakeholders. (2017-2018) *
- **Environmental Remediation Services, Selfridge Building 1533 – Detroit Arsenal, Harrison Township, Michigan; U.S. Army Environmental Command.** Served as field lead during takeover of operations and monitoring of an existing air sparge/soil vapor extraction system, as well as field manager during remedial construction at this former Nike missile facility that is currently used by the U.S. Customs and Border Patrol for vehicle maintenance. Remedial construction activities completed at the site included soil excavation, excavation dewatering, installation of an air sparge system in combination with oxygen-releasing compound injections to treat groundwater impacts, and installation of a bioventing and sub-slab depressurization system. Ongoing support for this project includes operation and maintenance of the newly installed air sparge system. (2015-2017) *
- **Remedial Action-Operations, Long-Term Monitoring, and Project Closeout; Sites 3 and 25, 148th Fighter Wing, Duluth, Minnesota, Minnesota Air National Guard; Site 9, Alpena Combat Readiness Training Center, Alpena, Michigan, Michigan Air National Guard.** Field Manager. Field Manager for

groundwater data gap investigations, in situ and ex situ remediation, long-term monitoring and project closeout conducted at the 148th Fighter Wing Sites 3 and 25 in Duluth, Minnesota and at the Alpena Combat Readiness Training Center Site 9 in Alpena, Michigan. Activities include monitoring well installation, direct-push technology soil boring investigation, excavation, and disposal of petroleum-impacted soils, groundwater treatment via injections utilizing multiple substrates (EHC, EHC-L, and Nutrisulfate), and bioaugmentation utilizing a dehalococoides inoculum, and placement of oxygen-release compound Advanced® as an excavation backfill amendment. Activities are currently ongoing and scheduled to continue through September 2018. Responsible for successfully executing all field activities including ensuring coordination between subcontractors, clients, and regulators, and balancing budgetary and schedule concerns as well as ensuring the health and safety of all onsite personnel are protected during the project. (2017-2016) *

- **Emerging Contaminant Investigation at Multiple Air National Guard Installations throughout the United States; National Guard Bureau.** Field Manager. Field manager for the investigation of emerging contaminants (i.e., 1,4-dioxane and perfluorooctanoic acid/ perfluorooctanesulfonic acid) at 7 Sites across 5 Air National Guard Installations throughout the Midwestern United States. Investigation included monitoring well installation and sampling. Investigations were conducted under a global health and safety plan/accident prevention plan and site-specific work plans with site-specific summary reports prepared. (2015-2016) *
- **Vapor Intrusion Study, Zanesville Air National Guard Station, Zanesville, Ohio; Air National Guard Restoration Branch.** Served as team member during work plan implementation to assess whether subsurface soil gas and potential vapor intrusion into indoor spaces were a complete or incomplete pathway. Activities included installation of sub-slab sampling points using a hammer drill, leak testing the sampling points, indoor air, and sub-slab air sampling using summa canisters and flow regulators, real-time ambient air quality monitoring and pressure differential monitoring during sampling, and site restoration activities. (2015) *
- **East Petroleum, Oils, and Lubricants Yard Corrective Action; Selfridge Air National Guard Base, Harrison Township, Michigan.** Field Manager and Health and Safety Officer responsible for work plan preparation, overseeing soil excavation, backfill amendment application, monitoring well installation and groundwater monitoring activities to remediate a historical jet fuel release. Excavation activities included eight separate cavities, including five soil excavation areas and three groundwater remediation areas, installed to a maximum depth of 10 feet below ground surface. Approximately 2,430 tons of impacted soil was removed and disposed offsite. Approximately 58,000 gallons of impacted groundwater was treated and discharged onsite. PermeOx Plus®, an oxygen-releasing backfill amendment, was added to the three groundwater areas during backfill activities to address groundwater impacts. Subsequent to the excavation activities, performance groundwater monitoring was conducted to evaluate current site conditions. *
- **Areas 2/8A Corrective Action; Selfridge Air National Guard Base, Harrison Township, Michigan.** Field Manager and Health and Safety Officer responsible for implementation of pre-corrective action data-gap investigation to delineate the impacted area, work plan preparation, overseeing soil excavation, x-ray fluorescence screening of flooring and sidewalls, and monitoring well installation and groundwater monitoring activities (including “Clean Hands” sampling method for low-level mercury) to remediate metals-

impacted soils within a former canal along Lake St. Clair. Excavation activities included two separate cavities and were installed to a maximum depth of 10 feet below ground surface. Within the southern excavation, two water mains required protection during excavation, and several other abandoned utilities were also unearthed. Approximately 1,400 tons of impacted soil was removed and disposed offsite. Subsequent to the excavation activities, performance groundwater monitoring was conducted to evaluate remediation effectiveness. *

- **Environmental/Regulatory Manager; Detroit, Michigan; Chicago, Illinois; and Springfield, Massachusetts.** Responsible for management of hazardous waste at each of the three production facilities, including generation, storage, and disposal per Resource Conservation and Recovery Act and state/local requirements, as well as development and implementation of employee training programs including Lockout/Tagout, Hazard Communication, and Asbestos Awareness. Completed environmental health and safety facility compliance audits, provided plant engineers with health and safety guidance during infrastructure upgrades, and completed regulatory reporting as required by the Department of Homeland Security, Drug Enforcement Administration, Superfund Amendments and Reauthorization Act, and state and local regulations. *
- **Industrial Facility Closure/Decommissioning; St. Louis, Missouri.** Responsible for contractor oversight during regulatory closure of a former shallow well; removal and disposal of three underground storage tanks; repair of damaged friable asbestos and damaged lead-based paint; various mercury mitigation activities including bulk material removal and disposal, sewer line cleaning, and camera surveying to identify mercury impact and removal of building materials impacted by mercury; PCB-contaminated flooring cleaning and waste disposal; lead containing glass debris removal and disposal; ductwork cleaning, removal, and disposal; rooftop dust collector cleaning; and removal and disposal of bulk lead dust. Was also responsible for initiating daily Health and Safety meetings, photographic and written documentation of work performed, initiating change-order requests prior to out-of-scope work being performed, as well as daily client de-briefings. *
- **Industrial Facility Closure/Decommissioning; Fort Wayne, Indiana.** Responsible for contractor oversight during removal of mercury impacted building materials; cleaning an underground pit and equipment basin; removing residual chemicals and debris from several outbuildings; evacuation and cleaning of an oil/water separator; cleaning, debris removal, and concrete backfilling of a former enamel room basement; demolition and floor cleaning of a hazardous waste storage building; cleaning of an oil house interior as well as demolition of an adjacent concrete sump; PCB ballast and mercury lamp inventory and removal; wood-block flooring removal and cleaning of concrete sub-flooring; cleaning and painting of a former aboveground storage tank pad; and evacuation and cleaning of two back-up diesel generator fuel tanks as well as two 10,000-gallon water/oil mixture scavenger tanks. *
- **Residential Complex Demolition; University of Michigan, Ann Arbor, Michigan.** Performed a pre-demolition building materials characterization, contractor oversight, and air monitoring during asbestos abatement activities, as well as contractor oversight and air monitoring activities during demolition of a multi-story building on the University of Michigan campus. Was responsible for implementation of the project-specific Health and Safety Plan, real-time air monitoring to ensure no offsite dust migration, as well as client communications and final report preparation. *

- **Soil Excavation Management and Clearance Sampling; AMP Ohio, Hawesville, Kentucky.** Worked side-by-side with the prime contractor to remove and stockpile large quantities of contaminated soil discovered during construction of \$400M hydroelectric dam. Was responsible for overseeing all excavation activities and waste management, and to ensure client satisfaction with a constantly evolving scope of work. Worked alongside the prime contractor and multiple subcontractors to ensure both the consultant and its subcontractor's field activities were coordinated with busy haul roads and other high hazard site constraints including high tension power lines and extremely heavy machinery. *
- **Facility Closure, Underground Storage Tank Removal and Decommissioning; Troy, Michigan.** For lease termination assistance to client, provided oversight and documentation of monitoring well abandonment and ethylene glycol underground storage tank removal. Completed soil sampling on the sidewall and bottom of the tank after removal, and coordinated the evacuation and cleaning of four interior sumps. Conducted oversight, documentation, and mercury vapor monitoring before, during, and after removal of mercury-contaminated flooring and ceiling tiles as well as during other mercury abatement activities. *
- **Chromium Plating Facility Remediation; Baraga, Michigan.** This project entailed remediation of soil and groundwater impacted by hexavalent chromium from a former chromium plating facility in a remote area of northern Michigan. Was responsible for assisting with initial site and building characterization fieldwork, which included interior wipe sampling for PCBs; soil boring and sampling; groundwater monitoring well installation and sampling; and contractor oversight during soil excavation, transportation, and disposal. Site contaminants were found along a drainage ditch several thousand feet from the source, which flowed through a marshy wooded area, and had to be cleared, soil removed, and restored to native conditions. *
- **Soil and Lagoon Characterization Investigation, Underground Storage Tank Removal and Soil Excavation; Franklin, Indiana.** Completed soil and groundwater sampling for a Phase II environmental site assessment, as well as coordination and completion of subsequent quarterly groundwater characterization investigations. Groundwater collection encompassed sampling at an abandoned industrial facility, both indoors and outdoors, and from within a closed underground storage tank vault beneath the main manufacturing building. Performed contractor oversight during site preparation which included partial building demolition, as well as during removal of eight 12,000-gallon underground storage tanks and associated piping and impacted soil. Sidewalls were field screened and confirmatory samples were collected to verify excavation extents. During excavation, it was discovered that the vault was only partially constructed of cinderblock, and two of the vault walls were bare soil which required quick action to maintain a safe working environment. Also completed post-excavation monitoring well installation and sampling, as well as construction oversight during subsequent building renovations. *
- **Site Characterization Investigation; Plainwell, Michigan.** Along the banks and floodplains of the Kalamazoo River, conducted soil sampling using a slide hammer, core-puller, and 3-inch Lexan™ tubes. Soil cores were cut, capped, and taped to allow to be hiked to the next sample location through heavily vegetated areas. Sample sites included areas requiring stream crossings, steep hills, and slippery clay riverbanks. Over a period of 3 weeks, more than 300 sample cores were obtained by the field team from the most rugged terrain within the project area. Sampling was conducted while being overseen by the client, U.S. Environmental Protection Agency, and Michigan Department of Environmental Quality personnel. *

- **Soil and Groundwater Investigation for Perfluorinated Compounds; Former Grissom Air Force Base, Peru, Indiana.** Field Manager responsible for providing oversight of multiple internal staff as well as subcontractors, regulators, and client during soil and groundwater investigation for emerging contaminants (perfluorinated compounds) including perfluorooctanoic acid and perfluorooctanesulfonic acid. Project entailed daily perfluorinated compounds checklist as well as rigorous sampling protocols to ensure no cross-contamination of samples due to ubiquitous nature of contaminants. Field sampling protocol included special field clothing laundering procedures, as well as inability to use low density polyethylene, Teflon, Gore-tex, and/or other unapproved sunblocks, bug-sprays, or lotions during the project. *
- **Industrial PCB Investigation; Fort Wayne, Indiana.** Performed wipe sampling on several hundred pieces of machinery slated for disposal. Upon receipt of analytical results, it was determined that a pilot test to clean PCBs from the surfaces of various machines was necessary. Subsequently performed the pilot test PCB cleaning, confirmation wipe-sampling, as well as paint removal and sampling to evaluate if the PCBs had penetrated the painted surfaces of the machinery. *
- **Building Characterization; Providence, Rhode Island.** Performed building characterization of a large former industrial facility through bulk sampling of concrete floors, brick walls, and wood block floors. Wipe samples were also collected from various heating, ventilation, and air conditioning components and interior structural surfaces to determine feasible options for the decommissioning or demolition of the buildings. *
- **Building Characterization; Murfreesboro, Tennessee.** In preparation for facility demolition, assisted in the characterization of building components within this facility through wipe-sampling of ductwork, walls, columns, and concrete floors. Received refresher OSHA training regarding elevated work surfaces and fall protection due to sampling locations over 40 ft high and accessible only by aerial lifts. *
- **Environmental Health and Safety Facility Audit; Ann Arbor, Michigan.** Completed an environmental health and safety facility compliance audit of a specialty electronics manufacturer and Phase I Environmental Site Assessment to identify areas of non-compliance with local, state, and federal regulations, as well as make recommendations for improvements associated with best management practices.
- **Lockout-Tagout Program Development; Troy, Alabama and Houston, Texas.** Conducted assessments of onsite machinery at helicopter manufacturing facilities and developed an overall lockout-tagout program as well as created specific procedures for each piece of onsite machinery to be safely de-energized for maintenance activities. *
- **Industrial Hygiene Evaluation, East Aurora, New York.** Completed an evaluation of work stations throughout multiple buildings at an aircraft component manufacturing complex to determine whether engineering controls could be improved to lower employee exposures to select chemicals and metals. Air monitoring was then conducted to determine whether OSHA Permissible Exposure Limits had been exceeded. *
- **Indoor Air Quality Assessment, East Cleveland, Ohio.** This project required indoor air sampling of a former industrial facility which was being converted into a science, technology, engineering, and mathematics high school. volatile organic compound sampling was conducted using summa canisters as well as air sampling for mercury-vapor using adsorbent charcoal tubes. Indoor air was surveyed for mercury vapor using an

Ohio Lumex mercury vapor meter. Repeated the project's scope of work five times to prove the level of risk for the planned building use was acceptable. *

- **Indoor Air Quality Assessment, Romulus, Michigan.** A large distribution and warehousing facility was investigated to determine if PCBs or other heavy metals had been pulled through ventilation fans into the Site building after an adjacent environmental disposal company suffered major fire damage. Air and surface wipe samples were used to evaluate if building materials or products were impacted. *
- **Nuisance Dust Assessment, Farmington Hills, Michigan.** Responsible for completing a visual assessment and implementing a sampling approach to determine whether elevated levels of dust particulate were migrating offsite from a concrete products manufacturer offsite into a residential area. Aggressive air sampling was conducted at several locations around the perimeter of the property and analyzed for total particulate matter. *
- **Phase I Environmental Site Assessments at Locations throughout the United States.** Completed over 50 Phase I environmental site assessments for a wide variety of commercial and industrial clients at greenfields, brownfields, and both active and vacant facilities in excess of 850,000 square feet. Examples of the types of facilities include: *
 - Aerospace component manufacturing
 - Helicopter manufacturing
 - Plastic injection molding
 - Hot and cold wire drawing
 - Healthcare component manufacturing
 - Electrical component manufacturing
 - Electroplating
 - Former tire and rubber manufacturing
 - Dairy processing
 - Arms and ammunitions manufacturing
 - Mining equipment manufacturing
 - Logging equipment manufacturing
 - Various service-industry facilities.

**PHASE II ENVIRONMENTAL SITE ASSESSMENT
STORMWATER MANAGEMENT AREAS**

**DETROIT DEPARTMENT OF TRANSPORTATION
FORMER COOLIDGE BUS TERMINAL
14044 SCHAEFER HIGHWAY
DETROIT, MICHIGAN 48227**

**PREPARED FOR:
CITY OF DETROIT BUILDING AUTHORITY
1301 3RD AVENUE, 3RD FLOOR
DETROIT, MICHIGAN 48226**

**PREPARED BY:
DLZ MICHIGAN, INC.
607 SHELBY STREET, SUITE 650
DETROIT, MICHIGAN 48226**

DLZ PROJECT NO.: 1942-6994-50



**ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES**

November 3, 2022

**Phase II Environmental Site Assessment
Stormwater Management Areas**

**Detroit Department of Transportation
Former Coolidge Bus Terminal
14044 Schaefer Highway
Detroit, Michigan 48227**

Prepared for
**City of Detroit Building Authority
1301 3rd Avenue, 3rd Floor
Detroit, Michigan 48226**

Prepared by
**DLZ Michigan, Inc.
607 Shelby Street, Suite 650
Detroit, Michigan 48226**

DLZ Project No.: 1942-6994-50

November 3, 2022

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EXECUTIVE SUMMARY

DLZ Michigan, Inc. was retained by the Detroit Building Authority (DBA) to conduct a Supplemental Phase II Environmental Site Assessment (ESA) of the property located at 14044 Schaefer Highway as well as 23 adjoining residential parcels along Compass Street and Ward Avenue in Detroit, Wayne County, Michigan; hereinafter referred to as the Subject Property. This Phase II ESA was performed at the request of the DBA to conduct additional assessment of areas throughout the Subject Property that are planned for construction of stormwater infrastructure.

The Subject Property is comprised of 24 parcels across approximately 23 acres including the unused former Coolidge Bus Terminal which sits on approximately 20 acres of land with eight vacant buildings and adjacent residential properties that may be made part of the overall project site in the future. The residential properties along Compass Street and Ward Avenue include to-be vacated alleyways, and vacated portions of Hartwell Avenue, Kendall Street, and Intervale Street, and are referred to as the Coolidge Bus Terminal Expansion Sites. The Subject Property Main Parcel is owned by the Detroit Department of Street Railways, a predecessor to the Detroit Department of Transportation (DDOT). The adjoining residential Expansion Sites parcels are owned by the Detroit Land Bank.

A Phase I ESA was conducted on the 20-acre main parcel of the Subject Property by DLZ in October 2019, and a Phase I ESA was later conducted by DLZ on the expanded approximately 23-acre Subject Property on August 27, 2021. In the August 2021 Phase I ESA, several Recognized Environmental Conditions (RECs) were identified and recommended for further investigation. The RECs identified during the August 2021 Phase I ESA included:

- The historical use of the Subject Property for bus maintenance and outdoor bus storage;
- The current and former presence of USTs, ASTs, vaults, and/or oil/water separators on the Subject Property, including approximately 800 gallons of standing diesel fuel discovered within the pump house “aqua system vault” during a December 1994 inspection by the Detroit Fire Department;
- Five confirmed releases reported at the Subject Property resulting in soil and groundwater contamination on the Subject Property and the presence of elevated concentrations of contaminants in the soil and groundwater at the Subject Property at levels that exceed EGLE Part 201 Residential Generic Cleanup Criteria and Screening Levels;
- The phenol-type odor and oily water in pits in the north-central portion of the Main Building;
- The historical industrial uses of the adjoining properties to the north and west; and,
- The former MGP site located approximately 300 feet north of the Subject Property.

Initial Phase II ESA field activities were performed at the 20-acre main parcel of the Subject Property between November 13 and November 26, 2019, to investigate the findings, including RECs, of the October 2019 Phase I ESA. During the initial Phase II ESA, 42 soil borings were advanced at the main

parcel of the Subject Property. Then, to further characterize subsurface soils and groundwater at the Subject Property, including the 23 adjoining residential parcels, DLZ performed Supplemental Phase II ESA field activities between January 26 and February 9, 2022. DLZ completed this Phase II ESA at the request of the DBA to conduct additional assessment of areas throughout the Subject Property that are planned for construction of stormwater infrastructure. Based on the data collected as part of this Phase II ESA, stormwater management infrastructure design may be influenced by existing soil and groundwater contamination at the Subject Property.

During the Supplemental Phase II ESA, a total of 39 soil borings were advanced at the Subject Property. Fourteen soil borings were advanced on the Coolidge Expansion Sites along Compass Street and Ward Avenue, and 25 soil borings were advanced on the main parcel of the Subject Property. Temporary groundwater monitoring wells were installed at twelve of the 81 soil boring locations, corresponding to locations where groundwater was encountered during drilling activities.

Specific findings of this Phase II ESA include the following:

- Shallow subsurface soils at the Site generally consist of sand with some gravel and debris/bricks/concrete (fill) from ground surface to approximately 4-5 feet bgs across the site. Below shallow subsurface soils, the Site generally consists of native medium stiff to stiff clay, silty clay or sandy clay to depths of 7-9 feet bgs, followed by a stiff to very stiff mottled clay to 12-14 feet bgs, and soft to stiff gray clay with high plasticity to a terminal depth of 15 feet bgs, with the exception of the central and northern sections of the Site where soils have been disturbed and backfilled with sand. Groundwater was encountered sporadically across the site at varying depths ranging from 4 to 11 feet bgs.
- Metals, VOCs, and/or SVOCs were detected in soil samples throughout the Site that exceeded the Groundwater Surface Water Interface Protection (GSIP) Criteria. Select locations as shown on the attached **Figure 5** through **Figure 7** also exceeded the Nonresidential Direct Contact (DC) Criteria. These contaminants could leach from existing soil and/or groundwater to stormwater within newly installed management infrastructure if not properly addressed during stormwater design, as well as create a worker exposure pathway during construction, respectively.
- SVOCs and VOC concentrations in soil exceeded the Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels at locations as shown on **Figure 6** and **Figure 7**, indicating potential indoor air inhalation pathways. At sample location SB-06, beneath the proposed location of the future Operations Building, SVOCs dibenzofuran and phenanthrene were detected in shallow soil at concentrations which exceeded the Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC), representing a potential exposure pathway to occupants of the future Operations Building.
- Several SVOCs were detected in groundwater at sample locations TW-06, TW-20, and TW-80 at concentrations which exceeded Water Solubility Screening Levels. These locations correspond to beneath the current main building and the former bus storage area in the eastern portion of the Subject Property. Two SVOCs, fluoranthene and pyrene, were detected in groundwater at sample location TW-06 at concentrations which exceeded the EGLE Non-Residential

Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAC), representing a potential exposure pathway to occupants of the Operations Building which is planned for that location.

Based on the data collected as part of this Phase II ESA, subsurface soils at the Subject Property contain contaminants at concentrations which exceed EGLE Part 201 Residential Generic Cleanup Criteria and Screening Levels. As a result, the subject property is defined as a “facility” by Section 20101(1)(r) of Michigan’s Natural Resources Environmental Protection Act, 1994 Public Act 451, as amended (NREPA). A “facility” is defined as: "any area, place or property where a hazardous substance in excess of the concentrations which satisfy the requirements of section 20120a(1)(a) or (17) has been released, deposited, disposed of, or otherwise comes to be located."

Based on the conclusions drawn from an evaluation of the data collected as part of the Phase II ESA, the following recommendations are presented:

- Due to documented soil and groundwater contamination throughout the subsurface of the Subject Property, a Soil and Groundwater Management Plan should be developed to provide direction for soil and groundwater removal, relocation and disposal options, and to minimize risk associated with worker exposure during redevelopment of the Subject Property. The Soil and Groundwater Management Plan would likely include information related to the site background and history, as well as protocol for soil and groundwater handling to ensure work performed at the Subject Property (i.e., demolition, grading, construction of buildings and stormwater infrastructure) does not cause exacerbation of existing contamination. Such protocol would include provisions for risk mitigation, soil and water management, and equipment decontamination.
- All wastes including contaminated soil and groundwater generated at the Subject Property shall be characterized in accordance with applicable federal, state, and local regulations and disposal facility requirements, and disposed offsite or be relocated on site as detailed in the Soil and Groundwater Management Plan. This may include over-excavation of impacted soils and replacement with clean soil, as part of the construction/installation of stormwater management infrastructure (e.g., bioswales, detention/retention basins, conveyance piping, etc.) to minimize the risk of cross-contamination of newly imported material, and to reduce potential for stormwater that enters the constructed infrastructure to contact contaminated soils and groundwater.
- The stormwater management infrastructure shall be designed to minimize or eliminate infiltration of contaminated groundwater into system infrastructure. Obtain an applicable stormwater discharge permit, as necessary, for any stormwater that is discharged from the stormwater management system to a publicly owned treatment works via a sanitary or combined sewer discharge and/or to a surface water of the state, either directly or indirectly through a public stormwater conveyance system. All applicable permit conditions, including, but not limited to sampling and discharge limit requirements, shall be complied with at all times.
- Based on site contaminants present at the Subject Property, phytoremediation may be considered for incorporation into stormwater management design. Phytoremediation uses

deep-rooted vegetation including trees such as poplar to draw groundwater up through the plant and through a process known as transpiration, the water is released through the leaves to the atmosphere. During this process, target contaminants such as VOCs are mineralized in the subsurface to gradually reduce contaminant levels over time. By selecting appropriate plantings for areas targeted for construction of stormwater retention features, phytoremediation may offer contaminant reduction as well as stormwater management capacity. Precautionary measures may be warranted, such as the placement of an underdrain system, to capture excess stormwater not otherwise influenced by phytoremediation. This will reduce the accumulation and possible migration of stormwater on top of the clay rich soil across the site.

- Section 20107a of Part 201 of the NREPA specifically requires that owners and operators take Due Care measures to ensure that existing contamination on a property does not cause unacceptable risks and is not exacerbated. Due Care obligations are required for a person who owns or operates property that he or she has knowledge is a “facility”, regardless of whether the person is liable. The Due Care requirements were designed so contaminated properties could be safely redeveloped. Due Care obligations include the following:
 - a) Evaluate Due Care obligations and prepare a Due Care Plan consistent with Section 20107a of Part 201 of the NREPA.
 - b) Prepare a Soil and Groundwater Management Plan for dissemination to contractors that may be exposed to contaminated soil and/or groundwater while working at the Site. The Due Care Plan should be appended or otherwise incorporated into the Soil and Groundwater Management Plan.
 - c) Undertake measures as are necessary to prevent exacerbation of the existing contamination (Refer to recommendations above).
 - d) Exercise due care by undertaking response activities necessary to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosions hazards due to hazardous substances, and allow for the intended use of the facility in a manner that protects the public health and safety, such as by removal of all free-product saturated soil as encountered.
 - e) Take reasonable precautions against the reasonably foreseeable acts or omissions of a third party and the consequences that are foreseeable could result from those acts or omissions.
 1. Ensuring all contractors adhere to the site-specific Soil and Groundwater Management Plan including stormwater management and soil stockpiling provisions;
 2. Verify soil or groundwater waste generated at the Site is properly handled, transported, and disposed;
 3. Determine whether Contractors who may perform work onsite are cognizant of the hazards of the site including explosivity and air quality concerns as well as direct contact, ingestion, and other potential exposure routes. Require contractors completing subsurface work to complete a site-specific Health and Safety Plan consistent with MIOSHA and OSHA requirements;
 4. Other actions as determined applicable by DDOT based on the type of activity planned to be performed at the Subject Property.

1.0 INTRODUCTION

DLZ Michigan, Inc. (DLZ) was retained by the Detroit Building Authority (DBA) to conduct a Supplemental Phase II Environmental Site Assessment (ESA) of the property located at 14044 Schaefer Highway as well as 23 adjoining residential parcels along Compass Street and Ward Avenue in Detroit, Wayne County, Michigan; hereinafter referred to as the Subject Property.

1.1 PURPOSE

This Supplemental Phase II ESA was performed at the request of the DBA to conduct additional assessment of areas throughout the Subject Property that are planned for construction of stormwater infrastructure.

1.2 LIMITATIONS AND EXCEPTIONS

The findings and professional opinions conveyed in this Phase II ESA are in part based upon information obtained by DLZ during completion of the Phase I ESA including historical site information obtained from governmental files and regulatory databases, as well as third parties such as Insite Design. DLZ did not independently verify the accuracy of information obtained, and cannot and does not guarantee its authenticity, accuracy, or reliability.

The professional opinions presented in this report are based on findings of the Phase II ESA itself and include geophysical survey results, subsurface soil characteristics, and soil and groundwater sample analytical results. Professional opinions are limited by the data gathered as part of the Phase II ESA, and as such conditions may be present at the Subject Property (i.e., environmental impact or contamination) that was not discovered during this assessment.

1.3 SPECIAL TERMS AND CONDITIONS

This Phase II ESA was completed in accordance with the Professional Services Contract between the City of Detroit, Detroit Building Authority and DLZ Michigan, Inc. There were no special terms or conditions beyond those agreed to within the Professional Services Contract.

1.4 USER RELIANCE

This Phase II ESA was prepared by DLZ for the exclusive use of the City of Detroit, the Detroit Department of Transportation (DDOT), and the DBA. The findings and professional opinions presented in this report are solely for the use and information of the City of Detroit, DDOT, and the DBA at the time the report was completed and may not be relied upon by third parties. Any reliance on this report by a third party is at such party's sole risk.

The services described in this report were performed consistent with generally accepted practices. No other warranty, express or implied, is made.

2.0 SITE DESCRIPTION

2.1 LOCATION

The project location includes the property located at 14044 Schaefer Highway as well as 23 adjoining residential parcels along Compass Street and Ward Avenue in Detroit, Wayne County, Michigan; hereinafter referred to as the Subject Property. The Subject Property is comprised of 24 parcels across approximately 23 acres including the unused former Coolidge Bus Terminal which sits on approximately 20 acres of land with eight vacant buildings and adjacent residential properties that may be made part of the overall project site in the future. These properties along Compass Street and Ward Avenue include to-be vacated alleyways, and vacated portions of Hartwell Avenue, Kendall Street, and Intervale Street, and are referred to as the Coolidge Bus Terminal Expansion Sites. Addresses and associated Parcel Numbers for the parcels that comprise the Subject Property are included in **Table 1**. A Project Location Map is included as **Figure 1**. A Subject Property layout map, including the Subject Property boundary is presented as **Figure 2**.

2.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The Subject Property is located in an industrial and residential area within the city limits of Detroit. The Subject Property main parcel houses the unused former Coolidge Bus Terminal. The western portion of the main parcel contains an approximately 250,000-square-foot Main Building and parking areas. A former Administrative/Terminal Building is located to the northwest of the Main Building, and to the northeast are the Fare Box Building and Heating Plant Building. Two small guard buildings are located west of the Main Building along Schaefer Highway. Concrete paved areas surround the Main Building, and gravel covered areas are present in the eastern portion of the Subject Property. Abandoned streetcar tracks and a concrete slab from a former building were observed in the east-central portion of the Subject Property during Phase II field activities. The Coolidge Expansion Sites along Ward Avenue and Compass Street, which adjoin the main parcel, contain primarily abandoned or vacant residential parcels. However, an occupied house was present at 13500 Compass Street.

Industrial properties adjoin the Subject Property to the north and west, and residential properties adjoin the Subject Property to the east and south. The Subject Property Main Parcel is owned by the Detroit Department of Street Railways, a predecessor to the Detroit Department of Transportation (DDOT). The adjoining residential Expansion Sites parcels are owned by the Detroit Land Bank. The Subject Property is located adjacent to the south of Frisbie Moving and Storage Company, and to the east of Danny's Used Auto Parts. Residential land uses adjoin the Subject Property to the east and south. The elevation of the property is approximately 645 feet above mean sea level.

2.3 SITE HISTORY

Review of historical records obtained by DLZ during completion of the 2021 Phase I ESA indicate that the Subject Property was historically used as a bus terminal and has been vacant since

approximately January 2012. The southern and eastern portions of the Subject Property (along Ward Avenue and Compass Street) were historically residential dwellings. Prior to the use as a bus terminal, the main portion of the Subject Property was used as a combined streetcar and bus maintenance and storage facility. Activities that occurred at the site included bus refueling, bus washing, bus maintenance, and indoor and outdoor bus storage. The north adjoining property has been industrial in usage since at least 1967. A manufactured gas plant (MGP) was historically located approximately 100 yards north of the Subject Property. The eastern and southern adjoining properties have historically been residential in usage. The western adjoining properties have been industrial in usage since at least 1926.

2.4 PREVIOUS ENVIRONMENTAL ASSESSMENTS

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Remediation and Redevelopment Division (RRD) provided DLZ with copies of prior assessment reports completed on the Subject Property. This section details the findings of those reports.

Between 1999 and 2003, the Traverse Group completed several environmental investigations at the main parcel of the Subject Property, including an Initial Assessment, a Final Assessment, and two quarterly free product monitoring events. Throughout these investigations, The Traverse Group advanced 41 soil borings and installed seven temporary and nine permanent monitoring wells. These investigations determined that contamination had migrated off the site to the northern adjoining property, directly north of the former underground storage tanks.

Subsequently, during a groundwater sampling event in April of 2003, approximately 1.08 inches of petroleum free product was found in one monitoring well (MW-15) north of the Main Building. The free product thickness was monitored for six months, in ten separate events, and ranged between 0.12 and 2.76 inches at MW-15. Monitoring was terminated when product thickness was last recorded at 0.24 inches in October 2003. Free product was also monitored, but not detected in six other monitoring wells (four off-site at the adjacent Frisbee property to the north, and two on-site). According to the Amended Final Assessment Report (AFAR), a total of 6,260 cubic yards of soil, 2,800 gallons of contaminated groundwater, and approximately 272 gallons of free product were removed and disposed off-site during various site activities, including the closure of the former USTs and installation of the new USTs and communications line. A feasibility analysis was performed as documented in the AFAR, which recommended installation of bioremediation systems as the appropriate corrective action for the site, to address remaining contamination north and east of the Main Building. No documentation supporting construction of such systems was discovered during completion of the DLZ Phase I ESA.

In October of 2011, Gannett Fleming was retained by EGLE-RRD to complete additional environmental studies at the site. In January and February of 2012, they advanced 30 soil borings (for a total of 58 soil samples) on the Subject Property and installed three temporary monitoring wells. Gannett Fleming also located and sampled three of the four existing permanent monitoring wells on the Subject Property, although they were unable to locate the monitoring well where free product was discovered in the environmental assessment completed

by The Traverse Group in 2003. Fourteen of the thirty soil borings contained concentrations of volatile organic compounds (VOCs) and/or polynuclear aromatic hydrocarbons (PNAs) above Michigan Part 213 Risk Based Screening Levels (RBSLs) for relevant pathways. Two soil samples also exceeded the soil volatilization to indoor air inhalation and soil saturation concentration screening levels. All other samples only exceeded the groundwater-surface water interface RBSL. Most exceedances were collected from the upper 2 to 6 feet of fill material or from the shallowest part of the clay unit. One sample was analyzed for diesel and oil range organics. Only one groundwater sample collected in January/February 2012 had concentrations of any compounds above RBSLs. In the August sampling event, two groundwater samples had detectable petroleum hydrocarbon compounds. Both of these samples were collected on the northern adjacent property. One of these samples did not exceed RBSLs, and the other sample only exceeded the groundwater-surface water interface RBSL.

Given the existing land use, and the stable and immobile nature of the soil and groundwater contaminants, Gannett Fleming recommended Monitored Natural Attenuation (MNA) with appropriate due care provisions as the most feasible remedial option for the Subject Property. Recommendations for compliance with due care included additional investigation to determine whether storm water sewers in proximity to contaminated soil and groundwater create a preferential pathway and therefore pose a groundwater/surface water interface (GSI) risk; and evaluation of indoor air quality related to potential vapor intrusion from nearby contaminated soil and groundwater.

On March 12, 2013, Gannett Fleming installed five sub-slab soil gas sampling points to evaluate vapor intrusion risks. All five points were located within the bus refueling area at the north portion of the Main Building. The sampling was conducted to evaluate if there was an indoor air inhalation risk to users in the building due to potential residual contaminants in soil. Petroleum and chlorinated VOCs were detected in all five soil samples but none of the concentrations exceeded applicable draft Michigan Department of Environmental Quality (now EGLE) Sub-Slab Industrial Acceptable Soil Gas Screening Concentrations (June 2008). The benzene concentration in SGP-2 (2,200 ug/m³) was equal to the applicable RBSL at the time of sampling. The benzene concentration at SGP-2 exceeds the current Nonresidential Volatilization to Indoor Pathway screening level (260 ug/m³) for soil vapor.

On November 25, 2013, Gannett Fleming installed an additional six sub-slab sampling points in the southeast corner of the Terminal Building on the northwest corner of the Subject Property. The samples were to be collected from the basement floor to determine whether there was an indoor air inhalation risk to building users based on residual contamination in soil or groundwater. When Gannett Fleming returned on November 26th, 2013 to collect the samples, five of the samples could not be collected because water had infiltrated the air sampling apparatus. A sixth vapor point was also unable to be sampled, likely due to low porosity caused by either tight clay immediately below the concrete or water filling the pores. Additionally, Gannett Fleming noticed a dark viscous material floating on the surface of the water in the basement sump on a November 15, 2013 site visit. The thickness of the material was measured at 0.02 inches.

According to drawings provided to DLZ by EGLE-RRD, underground storage tanks were formerly located west, north, and east of the Main Building at the Subject Property (Refer to **Figure 3**). Aboveground storage tanks were also formerly located north of the Main Building. Two oil water separators were shown to the east and northwest of the Gas House, respectively. Tanks historically located onsite contained a variety of fuels and lubricants (i.e., diesel, engine oil, gasoline, waste oil, heating oil, etc.) and ranged in size from 500 gallons to 50,000-gallons. A total of 19 USTs were removed or closed-in-place at the Subject Property in late 1999 and early 2000. Six new tanks were subsequently installed in the northern portion of the Subject Property in 2001 and remain in-place (**Figure 3**). These include four 25,000-gallon diesel tanks, one 10,000-gallon gasoline tank, one 1,000-gallon used oil tank, and a possible 550-gallon tank.

Five confirmed releases have been reported at the Subject Property, including three in 1999, one in 2000, and one in 2006. The 1999 confirmed releases were identified during construction activities related to underground storage tank removal and/or closure. The confirmed release in 2000 occurred when a diesel transfer pipe failed near the northwest portion of the Main Building. The confirmed release in 2006 was due to a leaking diesel fuel clamp.

A Phase I ESA was conducted on the 20-acre main parcel of the Subject Property by DLZ in October 2019, and a Phase I ESA was later conducted by DLZ on the expanded approximately 23-acre Subject Property on August 27, 2021. In the August 2021 Phase I ESA, several Recognized Environmental Conditions (RECs) were identified and recommended for further investigation. The RECs identified during the August 2021 Phase I ESA included:

- The historical use of the Subject Property for bus maintenance and outdoor bus storage;
- The current and former presence of USTs, ASTs, vaults, and/or oil/water separators on the Subject Property, including approximately 800 gallons of standing diesel fuel discovered within the pump house “aqua system vault” during a December 1994 inspection by the Detroit Fire Department;
- Five confirmed releases reported at the Subject Property resulting in soil and groundwater contamination on the Subject Property and the presence of elevated concentrations of contaminants in the soil and groundwater at the Subject Property at levels that exceed EGLE Part 201 Residential Generic Cleanup Criteria and Screening Levels;
- The phenol-type odor and oily water in pits in the north-central portion of the Main Building;
- The historical industrial uses of the adjoining properties to the north and west; and,
- The former MGP site located approximately 300 feet north of the Subject Property.

Historical documents and drawings are provided in the August 27, 2021, Phase I ESA prepared by DLZ.

3.0 FIELD INVESTIGATION

DLZ prepared a Site-Specific Health and Safety Plan (HASP) prior to initiation of Phase II field activities at the Subject Property. Phase II ESA Work Plans were also submitted to the City of Detroit Building Authority (DBA) for review and approval prior to mobilization. During the Phase II ESA, a total of 81 soil borings were advanced at the Subject Property. DLZ also collected surface soil samples from the ground surface to two feet bgs at twelve locations and collected samples of stockpiled soils at four locations to provide waste characterization for possible future disposal. A total of twelve groundwater samples were collected from temporary monitoring wells installed within soil borings at the Subject Property.

Phase II ESA field activities are further described in the following sections.

3.1 SOIL INVESTIGATION

Prior to advancement of soil borings at the Subject Property, a subsurface survey was performed to evaluate for the absence or presence of subsurface features and/or utilities in the vicinity of proposed drilling/boring locations. Utility clearance was performed using electromagnetic (EM) and ground penetrating radar (GPR) methods, as appropriate.

Initial Phase II ESA field activities were performed at the 20-acre main parcel of the Subject Property between November 13 and November 26, 2019 to investigate the findings, including RECs, of the October 2019 Phase I ESA. During the initial Phase II ESA, 42 soil borings were advanced at the main parcel of the Subject Property. Then, to further characterize subsurface soils at the Subject Property, including the 23 adjoining residential parcels, DLZ performed Supplemental Phase II ESA field activities between January 25 and February 9, 2022. Specifically, the Supplemental Phase II ESA was intended to further characterize subsurface soil and groundwater within areas proposed for construction of bioswales or other stormwater management infrastructure.

During the Supplemental Phase II ESA, a total of 39 soil borings were advanced at the Subject Property. 14 soil borings were advanced on the Coolidge Expansion Sites along Compass Street and Ward Avenue, and 25 soil borings were advanced on the main parcel of the Subject Property. The 14 Expansion Sites soil borings (SB-43 to SB-56) and 25 Stormwater Management Areas soil borings (SB-57 to SB-81) were generally advanced to depths ranging from 10 to 15 feet below ground surface (bgs). At each soil boring location, continuous soil samples were collected using direct push technology (DPT) drilling methods. A DLZ geologist/scientist examined all soil samples and classified the samples in general accordance with the Unified Soil Classification System (USCS), including as applicable: soil type, grain size, color, relative moisture content, and any other notable features. The soil samples were screened for organic vapors using a calibrated photoionization detector (PID) with a 10.6 ev lamp and all readings were recorded on the soil boring logs. Any odors, staining, discoloration, or other pertinent observations about the soils recovered were also noted on the soil boring logs. The 81 soil borings (SB-01 to SB-81) were generally advanced to depths ranging from 10 to 15 feet below ground surface (bgs), although shallow refusal prohibited deeper exploration at sample locations SB-07, SB-14, SB-64, SB-65, and SB-66. One to two soil samples were collected from

each of the 81 soil borings for laboratory analysis. The soil samples collected for laboratory analysis were collected at the boring interval with the highest PID reading (i.e. most likely impacted), or using professional judgement if no PID readings, staining or odors were observed. Soil samples were also collected from the ground surface to two ft bgs at 12 locations for shallow soil waste profiling. Additionally, soil samples were collected from stockpiled soils at four locations to facilitate waste disposal for future site redevelopment. Samples were placed on ice and transported to the analytical laboratory for analysis. Laboratory analyses and methods are discussed in **Section 3.3**.

Soil boring logs are provided in **Appendix A**. Soil boring locations are presented on **Figure 4**.

3.2 GROUNDWATER INVESTIGATION

Temporary monitoring wells were installed at twelve of the 81 soil boring locations, corresponding to locations where groundwater was encountered during drilling in volumes sufficient for sampling. Temporary wells were installed at soil boring locations SB-01, SB-06, SB-08, SB-09, SB-15, SB-20, SB-27, SB-33, SB-62, SB-67, SB-73, and SB-80. One water sample was collected from each of the twelve temporary monitoring wells in general accordance with low-flow (minimal drawdown) sampling procedures, as described in EGLE's Operational Memorandum No. 2 – Attachment 5, "Collection of Samples for Comparison to Generic Criteria", and the U.S. Environmental Protection Agency (USEPA) publication Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures, EPA/540/S-95/504, April 1996. Samples were placed on ice and transported to the analytical laboratory for analysis. Laboratory analyses and methods are discussed in **Section 3.3**.

3.3 LABORATORY ANALYSIS

Soil samples were delivered under standard Chain-of-Custody procedures to Fibertec Environmental Services Laboratory (Fibertec) in Holt, Michigan or ALS Group, USA in Holland, Michigan for analysis. Soil samples from soil borings were analyzed for parameters designed to determine if contaminant concentrations in soil exceed Part 201 Screening Levels.

Soil samples collected from future Coolidge Expansion Sites were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Michigan 10 metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), and polychlorinated biphenyls (PCBs). Soil samples collected from future Stormwater Management Areas (collected from the Main Parcel) were analyzed for VOCs, SVOCs, and Michigan 10 metals. Discrete soil samples were submitted for the analysis according to the following methods:

- VOCs (EPA Method 8260)
- SVOCs (EPA Method 8270)
- Michigan 10 metals (Methods 6010 and 7470)
- PCBs (EPA Method 8082)

For waste characterization purposes, to facilitate disposal of shallow site soils during construction, shallow composite soil samples were collected from the ground surface to two ft bgs at 12 locations. Four stockpiled soil samples were also collected for waste characterization. Waste characterization composite soil samples were analyzed for either VOCs, SVOCs, Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, selenium, silver, and zinc) and PCBs, or Toxicity Characteristic Leaching Procedure (TCLP) VOCs, TCLP SVOCs, TCLP RCRA 8 metals, and PCBs. Waste characterization soil samples were couriered under standard Chain-of-Custody procedures for analysis. Waste characterization composite soil samples were submitted for the analysis according to the following methods:

- VOCs (EPA Method 8260) or TCLP (EPA Method 1355) VOCs
- SVOCs (EPA Method 8270) or TCLP SVOCs
- RCRA 8 Metals (Methods 3005A and 6020A)
- PCBs (EPA Method 8082)

Groundwater samples were couriered under standard Chain-of-Custody procedures to Fibertec or ALS for analysis. Groundwater samples were analyzed for parameters designed to determine if contaminant concentrations in groundwater exceed Part 201 Screening Levels. Groundwater samples were analyzed for total VOCs, SVOCs, Michigan 10 metals, and PCBs according to the following methods:

- VOCs (EPA Method 8260)
- SVOCs (EPA Method 8270)
- Michigan 10 Metals (Methods 6010 and 7470)
- PCBs (EPA Method 8082)

3.6 INVESTIGATION-DERIVED WASTE

Investigation-Derived Waste generated during the Phase II ESA consisted of disposable materials such as acetate liners, soil coring tools, and personal protective equipment (PPE). Development water or purged water was containerized and returned to the borehole or containerized in an appropriately labeled, MDOT-approved, 55-gallon drum and staged at the site for future disposal. Excess drill cuttings were returned to the borehole or containerized in an appropriately labeled, MDOT-approved, 55-gallon drum and staged at the site for future disposal. Minimally contaminated disposable sampling materials and PPE were containerized and disposed off-site as ordinary solid waste. A total of one drum of soil cuttings and one drum of purged groundwater was generated during Phase II field activities and were labelled and staged within the western portion of the Gas House for future disposal.

4.0 GEOLOGY

Geologic maps of Michigan showing the bedrock and glacial geology of the state were reviewed on the Michigan Department of Environment, Great Lakes, and Energy's GeoWebFace website and in the Hydrogeologic Atlas of Michigan (Western Michigan University, 1981). The bedrock map indicates that the bedrock in the general site vicinity consists of the Middle Devonian age Antrim Shale. The glacial map indicates that glacial deposits in Wayne County near the Subject Property generally exceed 100 feet in thickness and consist primarily of lacustrine clay and silt deposits, with some inconsistent lenses of lacustrine sand and gravel. A shallow drinking water aquifer in the glacial sediments is not present in the vicinity of the City of Detroit.

No water wells or Wellhead Protection Areas were observed in the general vicinity of the Subject Property on the GeoWebFace Map. The nearest surface water body is the Rouge River which is located approximately 3.7 miles south-southwest of the Subject Property.

Shallow subsurface soils at the Site generally consist of sand with some gravel and debris/bricks/concrete (fill) from ground surface to approximately 4-5 feet bgs across the site. Below shallow subsurface soils, the Site generally consists of native medium stiff to stiff clay, silty clay or sandy clay to depths of 7-9 feet bgs, followed by a stiff to very stiff mottled clay to 12-14 feet bgs, and soft to stiff gray clay with high plasticity to a terminal depth of 15 feet bgs, with the exception of the central and northern sections of the Site where soils have been disturbed and backfilled with sand. Water was encountered sporadically across the site at varying depths ranging from 4 to 11 feet bgs.

5.0 EVALUATION OF ANALYTICAL RESULTS

Discrete soil sample laboratory analytical results were compared to the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, Part 201 Generic Cleanup Criteria and Screening Levels revised June 25, 2018 and further detailed below. DLZ compared the soil and groundwater data to Generic Non-Residential Criteria and Risk-Based Screening Levels (RBSLs) due to the planned future nonresidential use of the Subject Property. Soil samples were compared to:

- Groundwater Surface Water Interface Protection (GSIP) Criteria and RBSLs;
- Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC) and RBSLs;
- Nonresidential (Ambient Air) Volatile Soil Inhalation Criteria (VSIC) and RBSLs for 2-meter, 5-meter, and infinite source thicknesses;
- Nonresidential Particulate Soil Inhalation Criteria (PSIC) and RBSLs;
- Nonresidential Direct Contact (DC) Criteria and RBSLs; and,
- Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels.

Groundwater samples were compared to:

- Groundwater Surface Water Interface (GSI) Criteria and RBSLs;

- Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC) and RBSLs;
- Water Solubility Screening Levels;
- Flammability and Explosivity Screening Levels; and,
- Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels for shallow groundwater.

DLZ also compared metal concentrations in soil samples to Part 201 Statewide Default Background Levels. In accordance with Part 201 Screening Level guidelines, contaminant concentrations less than Statewide Default Background levels were not considered to exceed Part 201 Screening Levels. Drinking Water Protection Criteria were not evaluated as there are no usable aquifers within the City of Detroit, and the drinking water pathway is not considered relevant. GSIP and GSI Criteria were evaluated due to the potential impact of existing contamination on future construction of stormwater infrastructure, as otherwise there are no surface water bodies near the Subject Property and those criteria would likely not apply.

Soil sample analytical results for discrete samples are summarized in **Table 2**. Soil sample analytical results for composite (waste characterization) samples are summarized in **Table 3**. Groundwater sample analytical results are summarized in **Table 4**. Laboratory analytical reports are provided in **Appendix B**.

Contaminant concentrations exceeding Part 201 Screening Levels are summarized below:

- Soil sample results representing exceedances of EGLE GSIP Criteria for metals, SVOCs, and VOCs were generally observed throughout the entirety of the Subject Property, except for isolated areas beneath the Main Building, Heating Plant Building, and residential areas along Ward Avenue and Compass Street. Some areas including beneath the Main Building and eastern portion of the Subject Property were assumed to contain GSIP exceedances due to exceedances observed at nearby data points, as well the overall preponderance of GSIP exceedances across the Subject Property. Of the 129 total soil samples collected, 102 samples exceeded GSIP Criteria for metals, 26 samples exceeded GSIP Criteria for SVOCs, and 25 samples exceeded GSIP Criteria for VOCs. The most common GSIP exceedances were due to elevated concentrations of arsenic and lead.
- The soil sample result from one soil sample (SB-20 [1-2']) exceeded the EGLE GSIP and NDC Criteria for arsenic. This sample location is beneath the planned future Bus Storage Building in the east-central portion of the Subject Property.
- The soil sample result from one soil sample (SB-18 [1-2']) exceeded the EGLE GSIP, Nonresidential Direct Contact (NDC), and Particulate Soil Inhalation Criteria (PSIC) for lead. This sample location is beneath the planned future Fleet Maintenance Building in the northeast portion of the Subject Property.
- The soil sample results from seven soil samples (SB-02 [1-2']), (SB-06 [3-4']), (SB-06 [4-5']), (SB-07 [1-2']), SB-22 [1-2']), SB-63 [2-3'], and SB-81 [2-3'] exceeded the EGLE NDC for SVOCs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and/or indeno(1,2,3-cd)pyrene. These sample locations are located beneath the planned future

Operations Building, as well as scattered throughout the eastern portion of the Subject Property.

- The soil sample result from one soil sample (SB-06 [3-4']) exceeded the EGLE Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC) for dibenzofuran and phenanthrene. This sample was collected from beneath the planned future Operations Building.
- The soil sample results from seven soil samples (SB-02 [1-2'], SB-06 [3-4'], SB-06 [4-5'], SB-07 [1-2'], SB-27 [9-10'], SB-57 [3-4'], SB-63 [2-3'], SB-73 (2-3'), SB-73 (3-4'), SB-75 (3-4'), and SB-81 [2-3']) exceeded the EGLE Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels for SVOCs including 2-methylnaphthalene, naphthalene, and/or phenanthrene.
- The soil sample results from 27 soil samples collected exceeded the EGLE Non-Residential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels. These locations generally overlapped with areas of VOC and SVOC contamination described above.
- The groundwater sample results from eight groundwater samples (TW-01, TW-06, TW-08, TW-15, TW-20, TW-27, TW-33, and TW-73) exceeded the EGLE GSI for various metals arsenic and/or selenium, a variety of SVOCs including fluoranthene, fluorene, 2-methylnaphthalene, and/or phenanthrene, as well as VOCs including ethylbenzene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and/or xylenes.
- Several SVOCs were detected in groundwater at sample locations TW-06, TW-20, and TW-80 at concentrations which exceeded Water Solubility Screening Levels. Two SVOCs, fluoranthene and pyrene, were detected in groundwater at sample location TW-06 at concentrations which exceeded the EGLE Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAC).

A map depicting locations of soil samples that exceeded relevant criteria for metals is provided as **Figure 5**. A map depicting locations of soil samples that exceeded relevant criteria for SVOCs is included as **Figure 6**, and a map depicting locations of soil samples that exceeded relevant criteria for VOCs is included as **Figure 7**. A map depicting areas where groundwater is anticipated to be present onsite based on locations it was encountered is provided as **Figure 8** and locations of groundwater samples that exceed relevant criteria for groundwater is provided as **Figure 9**.

6.0 SUMMARY AND CONCLUSIONS

DLZ completed this Phase II ESA at the request of the DBA to conduct additional assessment of areas throughout the Subject Property that are planned for construction of stormwater infrastructure. Based on the data collected as part of this Phase II ESA, stormwater management infrastructure design may be influenced by existing soil and groundwater contamination at the Subject Property. Subsurface soil and groundwater at the Subject Property contains contaminants at concentrations which exceed EGLE Part 201 Nonresidential Generic Cleanup Criteria and Screening Levels. As a result, the subject property is defined as a "facility" by Section 20101(1)(r) of Michigan's Natural Resources Environmental Protection Act, 1994 Public Act 451, as amended (NREPA). A "facility" is defined as: "any area, place or property

where a hazardous substance in excess of the concentrations which satisfy the requirements of section 20120a(1)(a) or (17) has been released, deposited, disposed of, or otherwise comes to be located."

Specific findings of this Phase II ESA include the following:

- Metals, VOCs, and/or SVOCs were detected in soil samples throughout the Site that exceeded the Groundwater Surface Water Interface Protection (GSIP) Criteria. Select locations as shown on the attached **Figure 5** through **Figure 7** also exceeded the Nonresidential Direct Contact (DC) Criteria. These contaminants could leach from existing soil and/or groundwater to stormwater within newly installed management infrastructure if not properly addressed during stormwater design, as well as create a worker exposure pathway during construction, respectively.
- SVOCs and VOC concentrations in soil exceeded the Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels at locations as shown on **Figure 6** and **Figure 7**, indicating potential indoor air inhalation pathways. At sample location SB-06, beneath the proposed location of the future Operations Building, SVOCs dibenzofuran and phenanthrene were detected in shallow soil at concentrations which exceeded the Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC), representing a potential exposure pathway to occupants of the future Operations Building;
- Several SVOCs were detected in groundwater at sample locations TW-06, TW-20, and TW-80 at concentrations which exceeded Water Solubility Screening Levels. These locations correspond to beneath the current main building and the former bus storage area in the eastern portion of the Subject Property. Two SVOCs, fluoranthene and pyrene, were detected in groundwater at sample location TW-06 at concentrations which exceeded the EGLE Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAC), representing a potential exposure pathway to occupants of the Operations Building which is planned for that location.

It should be noted that GSI Criteria were developed by the Michigan Department of Environmental Quality (MDEQ), a predecessor to EGLE, to protect surface waters of the state of Michigan. The nearest surface water to the Subject Property is believed to be the Rouge River, which is approximately 4 miles west of the Subject Property. Although GSI is not considered relevant at the Subject Property due to the lack of nearby surface water to which site contamination could reasonably be expected to vent, those criteria are provided due to lack of other relevant criteria for stormwater design purposes. According to the EGLE Remediation and Redevelopment Division guidance document titled "Groundwater-Surface Water Interface Pathway Compliance Options" from April 2018, the GSI pathway is considered relevant when "a remedial investigation or application of best professional judgement leads to the conclusion that a hazardous substance in groundwater can be reasonably expected to vent to surface waters of the state in concentrations that exceed the generic GSI criteria currently or in the future." The Water Resources Division (WRD) of EGLE determines whether a water body is considered a surface water of the state.

Unlike GSI/GSIP which are intended to be protective of the environment, DC Criteria are intended to be protective of human health. According to the MDEQ Part 201 Generic Soil Direct Contact Criteria Technical Support Document dated January 5, 2001, direct contact criteria represent a soil

concentration that is protective against adverse health effects due to long-term ingestion of and dermal contact with contaminated soil.

According to EGLE, “Vapor intrusion is the process of vapors migrating from volatile chemicals in contaminated soil or ground water through subsurface soils and/or preferential pathways (such as underground utilities) and impacting the indoor air quality of any overlying buildings. The volatilization to indoor air pathway (VIAP) is the exposure pathway that evaluates the risk posed from vapor intrusion and direct volatilization”. Similarly, VSIC and GVIAC criteria also relate to indoor air hazards related to subsurface contamination. The VSIC are protective of long-term, systemic health effects resulting from ambient air inhalation exposure due to contaminants in soil, whereas GVIAC are protective of long-term, systemic health effects resulting from ambient air inhalation exposure due to contaminants in groundwater.

7.0 RECOMMENDATIONS

Based on the conclusions drawn from an evaluation of the data collected as part of the Phase II ESA, the following recommendations are presented:

- Due to documented soil and groundwater contamination throughout the subsurface of the Subject Property, a Soil and Groundwater Management Plan should be developed to provide direction for soil and groundwater removal, relocation and disposal options, and to minimize risk associated with worker exposure during redevelopment of the Subject Property. The Soil and Groundwater Management Plan would likely include information related to the site background and history, as well as protocol for soil and groundwater handling to ensure work performed at the Subject Property (i.e., demolition, grading, construction of buildings and stormwater infrastructure) does not cause exacerbation of existing contamination. Such protocol would include provisions for risk mitigation, soil and water management, and equipment decontamination.
- All wastes including contaminated soil and groundwater generated at the Subject Property shall be characterized in accordance with applicable federal, state, and local regulations and disposal facility requirements, and disposed offsite or be relocated on site as detailed in the Soil and Groundwater Management Plan. This may include over-excavation of impacted soils and replacement with clean soil, as part of the construction/installation of stormwater management infrastructure (e.g., bioswales, detention/retention basins, conveyance piping, etc.) to minimize the risk of cross-contamination of newly imported material, and to reduce potential for stormwater that enters the constructed infrastructure to contact contaminated soils and groundwater.
- The stormwater management infrastructure shall be designed to minimize or eliminate infiltration of contaminated groundwater into system infrastructure. Obtain an applicable stormwater discharge permit, as necessary, for any stormwater that is discharged from the stormwater management system to a publicly owned treatment works via a sanitary or combined sewer discharge and/or to a surface water of the state, either directly or indirectly

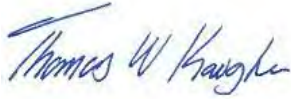
through a public stormwater conveyance system. All applicable permit conditions, including, but not limited to sampling and discharge limit requirements, shall be complied with at all times.

- Based on site contaminants present at the Subject Property, phytoremediation may be considered for incorporation into stormwater management design. Phytoremediation uses deep-rooted vegetation including trees such as poplar to draw groundwater up through the plant and through a process known as transpiration, the water is released through the leaves to the atmosphere. During this process, target contaminants such as VOCs are mineralized in the subsurface to gradually reduce contaminant levels over time. By selecting appropriate plantings for areas targeted for construction of stormwater retention features, phytoremediation may offer contaminant reduction as well as stormwater management capacity. Precautionary measures may be warranted, such as the placement of an underdrain system, to capture excess stormwater not otherwise influenced by phytoremediation. This will reduce the accumulation and possible migration of stormwater on top of the clay rich soil across the site.
- Section 20107a of Part 201 of the NREPA specifically requires that owners and operators take Due Care measures to ensure that existing contamination on a property does not cause unacceptable risks and is not exacerbated. Due Care obligations are required for a person who owns or operates property that he or she has knowledge is a “facility”, regardless of whether the person is liable. The Due Care requirements were designed so contaminated properties could be safely redeveloped. Due Care obligations include the following:
 - a) Evaluate Due Care obligations and prepare a Due Care Plan consistent with Section 20107a of Part 201 of the NREPA
 - b) Prepare a Soil and Groundwater Management Plan for dissemination to contractors that may be exposed to contaminated soil and/or groundwater while working at the Site. The Due Care Plan should be appended or otherwise incorporated into the Soil and Groundwater Management Plan.
 - c) Undertake measures as are necessary to prevent exacerbation of the existing contamination (Refer to recommendations above).
 - d) Exercise due care by undertaking response activities necessary to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosions hazards due to hazardous substances, and allow for the intended use of the facility in a manner that protects the public health and safety, such as by removal of all free-product saturated soil as encountered.
 - e) Take reasonable precautions against the reasonably foreseeable acts or omissions of a third party and the consequences that are foreseeable could result from those acts or omissions.
 1. Ensuring all contractors adhere to the site-specific Soil and Groundwater Management Plan including stormwater management and soil stockpiling provisions;
 2. Verify soil or groundwater waste generated at the Site is properly handled, transported, and disposed;
 3. Determine whether Contractors who may perform work onsite are cognizant of the hazards of the site including explosivity and air quality concerns as well as direct contact, ingestion, and other potential exposure routes. Require contractors

completing subsurface work to complete a site-specific Health and Safety Plan consistent with MIOSHA and OSHA requirements;

4. Other actions as determined applicable by DDOT based on the type of activity planned to be performed at the Subject Property.

8.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)



Thomas Kaugher, PG
Project Manager



Scott G. Park, CPG
Environmental Department Manager

TABLES

**TABLE 1
COOLIDGE SITES PARCEL SUMMARY**

PARCEL ID	SITE ADDRESS	ZONING	CURRENT PROPERTY TYPE	LEGAL DESCRIPTION ⁽¹⁾	PROPERTY ACQUISITION	PHASE II SAMPLING PERFORMED
22029852	14044 Schaefer Highway, Detroit, MI	M4	Garages - Service/Fleet Facility	E SCHAEFER HWY ALL THAT PT LYG E OF & ADJ COOLIDGE HWY OF N 1/2 OF S W 1/4 OF S W 1/4 OF SEC 20 T 1 S R 11 E 22/-- 19.5 ACRES	DDOT-owned	Yes
22009808	13520 Compass Street, Detroit, MI	R1	Vacant Residential	N COMPASS 123 HAPPY HOMES SUB L31 P69 PLATS, W C R 22/40 40 X 128.92A	Full Take	Yes
22009810	13500 Compass Street, Detroit, MI	R1	Single Family Residential	N COMPASS 121 HAPPY HOMES SUB L31 P69 PLATS, W C R 22/40 40 X 128.58A	Full Take	No
22009811	13374 Compass Street, Detroit, MI	R1	Vacant Residential	N COMPASS 120 AND VAC ALLEY ADJ HAPPY HOMES SUB L31 P69 PLATS, W C R 22/40 35 X 138.23A	Full Take	Yes
22009812	13366 Compass Street, Detroit, MI	R1	Vacant Residential	N COMPASS 119 AND VAC ALLEY ADJ HAPPY HOMES SUB L31 P69 PLATS, W C R 22/40 35 X 138.08A	Full Take	Yes
22009813	13360 Compass Street, Detroit, MI	R1	Vacant Residential	N COMPASS 118 AND VAC ALLEY ADJ HAPPY HOMES SUB L31 P69 PLATS, W C R 22/40 35 X 137.93A	Full Take	No
22025263	14015 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 299 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025262	14023 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 298 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025261	14031 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 297 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025260	14037 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 296 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025259	14045 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 295 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025258	14101 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 294 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025257	14111 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 293 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025256	14117 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 292 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025255	14123 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 291 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025254	14131 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 290 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025253	14139 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 289 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025252	14145 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 288 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025251	14151 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 287 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025250	14159 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 286 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	Yes
22025249	14167 Ward Avenue, Detroit, MI	R1	Single Family Residential	W WARD 285 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 35 X 103.9	Full Take	No
22025248	14173 Ward Avenue, Detroit, MI	R1	Single Family Residential	W WARD 284 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 30 X 103.9	Full Take	No
22025247	14179 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 283 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 30 X 103.9	Full Take	Yes
22025246	14185 Ward Avenue, Detroit, MI	R1	Vacant Residential	W WARD 281 282 GREENLAWN SUB L33 P52 PLATS, W C R 22/91 33 X 103.9	Full Take	No

Notes:
Source: City of Detroit Parcel Viewer (<https://detroitmi.gov/webapp/city-detroit-parcel-viewer>)

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-01 (0-1)	SB-02 (1-2)	SB-02 (9-10)	SB-03 (9-10)	SB-04 (4-5)	SB-04 (8-9)	SB-05 (6-7)	SB-05 (14-15)	SB-06 (3-4)	SB-06 (4-5)	SB-07 (1-2)	SB-08 (5-6)	DUP-01 SB-08 (5-6)	SB-09 (1-2)	SB-09 (5-6)			
											Sample Date	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																													
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		6,300	8,600	8,000	7,800	36,000	13,000	11,000	8,700	5,800	8,400	3,100	7,500	8,300	5,400	6,500			
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA	270,000	420,000	48,000	49,000	230,000	75,000	64,000	21,000	99,000	70,000	20,000	52,000	53,000	50,000	44,000				
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA	970	1,800	130	96	300	150	680	69	190	150	75	800	250	340	150				
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA	16,000	16,000	14,000	15,000	28,000	24,000	20,000	9,300	8,500	19,000	6,100	14,000	15,000	8,100	17,000				
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA	39,000	86,000	12,000	13,000	98,000	15,000	17,000	8,800	97,000	14,000	5,400	14,000	14,000	22,000	15,000				
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA	120,000	320,000	7,200	6,600	74,000	11,000	11,000	5,000	96,000	10,000	11,000	12,000	11,000	69,000	8,000				
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390	64	140	<50	<50	120	<50	<50	<50	58	<50	<50	<50	<50	<50	<50				
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA	2,600	890	200	<200	2,300	360	660	<200	560	370	<200	<200	230	390	250				
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA	<100	130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	110	<100				
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA	81,000	250,000	32,000	33,000	52,000	68,000	70,000	29,000	380,000	42,000	23,000	40,000	45,000	60,000	42,000				
PCBs µg/Kg																													
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100			
Semivolatiles, BNAs µg/Kg																													
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA	470	480	<330	<330	<330	<330	<330	<330	<330	180,000	18,000	8,700	380	<330	400	<330			
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08	<330	470	<330	<330	340	<330	<330	<330	190,000	23,000	14,000	640	410	470	<330				
Semivolatiles, PNAs µg/Kg																													
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06	570	920	<330	<330	<330	<330	<330	<330	<330	220,000	29,000	7,000	380	<330	490	<330			
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID	<330	<330	<330	<330	<330	<330	<330	<330	<330	1,100	<330	430	<330	<330	<330				
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08	2,200	4,400	<330	<330	<330	450	<330	<330	<330	340,000	44,000	19,000	830	620	1,000	<330			
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07	6,900	16,000	<330	<330	990	<330	<330	<330	<330	320,000	51,000	26,000	590	510	1,800	<330			
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA	6,600	15,000	<330	<330	800	<330	<330	<330	320,000	40,000	24,000	<330	<330	1,700	<330				
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA	12,000	25,000	<330	<330	1,100	<330	<330	<330	340,000	54,000	30,000	410	420	2,300	<330				
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA	2,300	4,700	<330	<330	530	<330	<330	<330	74,000	9,100	7,000	<330	<330	910	<330				
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA	4,100	8,900	<330	<330	410	<330	<330	<330	120,000	20,000	13,000	<330	<330	910	<330				
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA	6,600	15,000	<330	<330	890	<330	<330	<330	260,000	41,000	25,000	440	330	1,600	<330				
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA	710	1,600	<330	<330	<330	<330	<330	<330	30,000	3,500	2,300	<330	<330	<330	<330				
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA	16,000	35,000	<330	<330	2,000	<330	<330	<330	940,000	160,000	84,000	2,700	2,000	3,800	<330				
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06	770	1,100	<330	<330	<330	<330	<330	<330	350,000	37,000	19,000	800	560	720	<330				
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA	2,900	6,100	<330	<330	470	<330	<330	<330	110,000	13,000	9,500	<330	<330	1,000	<330				
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000	<330	370	<330	<330	860	<330	740	<330	100,000	11,000	8,200	1,300	990	730	<330				
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000	8,100	15,000	<330	<330	2,200	<330	<330	<330	1,100,000	180,000	90,000	4,200	2,900	3,500	<330				
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08	11,000	27,000	<330	<330	1,800	<330	<330	<330	650,000	110,000	58,000	2,000	1,500	3,100	<330				
Volatiles, VOCs µg/Kg																													
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)	<100	<310	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<260	<620	<260	<100			
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)	<50	<160	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	460	540	<130	<50			
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)	<57	<220	<52	<52	<56	<55	<50	<50	<50	<50	<50	<50	<180	<430	<180	<50			
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000	<100	<160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<130	<310	<130	<100				
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340	86	<160	<50	<50	<50	<50	<50	<50	<50	<50	<50	790	1,100	<130	<50				
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250				
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	340	<330	<330	<330	<330	<330	<330	<330	480	<330	11,000	10,000	64,000	3,500	4,100	2,300			
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)	<100	<160	<100	<100	<100	<100	120	<100	<100	<100	<100	440	640	700	<100				
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)																			

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-10 (1-2)	SB-10 (9-10)	SB-11 (1-2)	SB-11 (9-10)	SB-12 (0-1)	SB-12 (11-12)	SB-13 (4-5)	SB-13 (6-7)	SB-14 (1-2)	SB-14 (4-5)	SB-15 (1-2)	SB-15 (4-5)	DUP-02 SB-15 (4-5)	SB-16 (3-4)	SB-16 (8-9)		
											Sample Date	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																												
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		3,100	7,000	2,800	12,000	5,300	6,500	8,700	7,800	6,800	5,900	7,600	11,000	10,000	8,100	6,300		
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA		19,000	35,000	30,000	52,000	34,000	37,000	66,000	53,000	15,000	15,000	23,000	46,000	44,000	52,000	40,000		
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA		180	140	1,100	240	210	94	<50	140	1,500	130	230	1,100	110	110	240		
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA		6,000	14,000	13,000	16,000	10,000	15,000	19,000	15,000	6,700	7,100	8,500	15,000	16,000	17,000	15,000		
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA		12,000	14,000	13,000	15,000	22,000	14,000	17,000	15,000	11,000	11,000	14,000	15,000	13,000	16,000	13,000		
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA		26,000	6,700	99,000	10,000	34,000	6,500	9,500	7,300	9,200	6,600	6,400	8,000	6,300	7,900	6,700		
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390		<50	<50	<50	<50	54	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA		230	<200	240	290	250	<200	<200	<200	<200	<200	200	280	<200	230	270		
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA		24,000	38,000	39,000	51,000	38,000	39,000	42,000	44,000	42,000	31,000	29,000	53,000	40,000	44,000	43,000		
PCBs µg/Kg																												
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Semivolatiles, BNAs µg/Kg																												
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08		<330	<330	470	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Semivolatiles, PNAs µg/Kg																												
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA		350	<330	420	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06		<330	<330	680	<330	<330	<330	<330	<330	<330	<330	<330	<330	470	<330	<330		
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000		<330	<330	11,000	<330	<330	<330	<330	<330	<330	<330	<330	2,800	4,200	<330	<330		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000		<330	<330	450	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08		340	<330	420	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330		
Volatiles, VOCs µg/Kg																												
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)		<100	<100	<2,700	<130	<1,200	<130	<130	<120	<120	<120	<130	<100	<100	<140	<130		
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)		150	<50	<680	<50	<300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)		<50	<50	<680	<50	<300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000		<100	<100	<680	<100	<300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340		71	<50	800	<50	<300	<50	<50	<50	<50	61	<50	<50	<50	<50	<50		
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)		<250	<250	740	<250	<300	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		<330	<330	12,000	<330	2,700	<330	<330	<330	<330	<330	<330	<330	1,800	1,800	<330		
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)		<100	<100	1,900	<100	<610	<100	<100	<100	<100	190	190	<100	<100	<100			
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6																					

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-17 (2-3)	SB-17 (3-4)	SB-18 (1-2)	SB-18 (4-5)	SB-19 (9-10)	SB-19 (14-15)	SB-20 (1-2)	SB-20 (4-5)	SB-21 (4-5)	SB-21 (14-15)	SB-22 (1-2)	SB-22 (4-5)	SB-23 (4-5)	SB-23 (7-8)	SB-24 (1-2)	
											Sample Date	11/22/2019	11/22/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																											
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		8,700	7,400	12,000	7,200	7,900	5,900	55,000	7,600	5,500	7,400	7,400	13,000	9,200	9,000		4,200
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA	41,000	44,000	14,000,000	65,000	50,000	120,000	120,000	74,000	77,000	37,000	180,000	95,000	64,000	51,000	25,000		
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA	88	120	26,000	160	110	68	790	210	270	120	640	410	120	150	230		
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA	5,700	14,000	140,000	15,000	16,000	13,000	9,400	16,000	16,000	17,000	12,000	17,000	19,000	17,000	8,700		
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA	7,700	13,000	30,000,000	18,000	14,000	9,300	60,000	14,000	15,000	15,000	100,000	11,000	15,000	16,000	8,600		
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA	5,600	6,100	64,000,000	15,000	7,500	4,800	70,000	9,600	14,000	8,100	58,000	14,000	9,300	7,600	25,000		
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA	430	<200	1,600	290	<200	<200	3,000	7,100	590	<200	610	800	270	<200	<200	<200	
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA	<100	<100	1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA	20,000	42,000	35,000,000	59,000	41,000	27,000	100,000	53,000	56,000	44,000	53,000	72,000	39,000	42,000	41,000		
PCBs µg/Kg																											
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID	<100	<100	23,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Semivolatiles, BNAs µg/Kg																											
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA	<330	<330	<960	<330	<330	<330	<330	<330	<330	<330	<330	<930	<330	<330	<330	<330	
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08	<330	<330	<960	<330	<330	<330	340	<330	<330	<330	1,400	<330	<330	<330	<330	<330	
Semivolatiles, PNAs µg/Kg																											
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06	<330	<330	<960	<330	<330	<330	<330	<330	<330	<330	<330	1,300	<330	<330	<330	<330	
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID	<330	<330	<960	<330	<330	<330	<330	<330	<330	<330	1,100	<330	<330	<330	<330		
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08	<330	<330	<960	<330	<330	<330	570	<330	<330	<330	3,200	<330	<330	<330	<330		
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07	<330	<330	3,000	<330	<330	<330	2,300	<330	<330	<330	17,000	<330	<330	<330	<330		
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA	<330	<330	6,900	<330	<330	<330	2,500	<330	<330	<330	27,000	<330	<330	<330	370		
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA	<330	<330	7,900	360	<330	<330	3,600	<330	<330	<330	37,000	<330	<330	<330	640		
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA	<330	<330	6,600	<330	<330	<330	2,100	<330	<330	<330	21,000	<330	<330	<330	<330		
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA	<330	<330	1,700	<330	<330	<330	1,300	<330	<330	<330	12,000	<330	<330	<330	<330		
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA	<330	<330	3,200	<330	<330	<330	2,300	<330	<330	<330	15,000	<330	<330	<330	350		
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA	<330	<330	4,600	<330	<330	<330	430	<330	<330	<330	4,300	<330	<330	<330	<330		
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA	<330	<330	4,000	790	<330	<330	4,600	<330	<330	<330	31,000	<330	<330	<330	550		
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06	<330	<330	<960	<330	<330	<330	<330	<330	<330	<330	2,100	<330	<330	<330	<330		
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA	<330	<330	3,700	<330	<330	<330	2,000	<330	<330	<330	22,000	<330	<330	<330	<330		
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000	<330	<330	<960	<330	<330	<330	820	<330	<330	<330	<930	<330	<330	<330	<330		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000	<330	<330	1,600	450	<330	<330	2,000	<330	<330	<330	9,000	<330	<330	<330	<330		
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08	<330	<330	3,600	580	<330	<330	4,200	<330	<330	<330	36,000	<330	<330	<330	790		
Volatiles, VOCs µg/Kg																											
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)	<140	<100	<320	<100	<100	<100	130	<100	<100	<100	<100	<100	<100	130	<130	<100	
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)	<50	<50	<160	<50	<50	<50	85	<50	<50	<50	51	<50	<50	<50	<50		
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)	57	<50	<230	<50	<50	<50	<63	<54	<61	<50	<66	<55	<50	<50	<50		
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000	<100	<100	<160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340	<50	<50	<160	<50	<50	<50	230	<50	<50	<50	130	<50	<50	<50	<50		
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	<330	<330	<330	<330	<330	<330	1,100	<330	<330	<330	350	<330	<330	<330	<330		
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)	<100	<100	<160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)																		

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-24 (3-4)	SB-25 (5-6)	SB-25 (14-15)	SB-26 (4-5)	SB-26 (7-8)	SB-27 (3-4)	SB-27 (9-10)	SB-28 (4-5)	SB-28 (12-13)	SB-29 (3-4)	SB-29 (14-15)	SB-30 (1-2)	SB-30 (4-5)	DUP-03 SB-30 (4-5)	SB-31 (4-5)			
											Sample Date	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																													
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		2,500	7,200	7,500	1,500	1,300	1,600	530	1,600	3,200	3,200	5,500	7,900	8,200	5,000	2,100			
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA		4,700	71,000	46,000	12,000	8,100	8,200	7,800	8,700	12,000	31,000	46,000	66,000	50,000	59,000	24,000			
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA		59	280	120	53	55	52	<50	53	69	160	87	120	180	79	120			
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA		4,400	23,000	18,000	4,200	4,300	3,500	3,300	4,100	5,600	6,200	15,000	17,000	16,000	14,000	4,100			
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA		3,600	17,000	15,000	3,200	3,000	2,900	2,400	2,100	3,600	5,400	14,000	12,000	14,000	8,100	3,700			
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA		2,100	15,000	8,200	2,300	3,100	2,100	1,600	1,900	3,200	8,600	6,700	7,900	7,100	6,500	4,800			
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50			
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA		<200	6,300	<200	<200	<200	<200	<200	<200	<200	310	<200	280	240	280	300			
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100			
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA		12,000	64,000	44,000	11,000	9,200	8,500	5,900	7,700	13,000	19,000	37,000	34,000	39,000	29,000	14,000			
PCBs µg/Kg																													
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID		<100	<100	<100	<100	<100	<100	1,900	<100	<100	<100	<100	<100	<100	<100	<100			
Semivolatiles, BNAs µg/Kg																													
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA		<330	<330	<330	<330	<330	<330	<4,600	<330	<330	<330	<330	<330	<330	<330	<330			
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08		<330	<330	<330	<330	590	<330	6,000	<330	<330	<330	<330	<330	<330	<330	<330			
Semivolatiles, PNAs µg/Kg																													
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06		<330	<330	<330	<330	<330	<330	14,000	<330	<330	<330	<330	<330	<330	<330	<330			
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID		<330	<330	<330	<330	<330	<330	<4,600	<330	<330	<330	<330	<330	<330	<330	<330			
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08		<330	<330	<330	<330	<330	<330	13,000	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07		<330	<330	<330	<330	<330	780	6,600	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA		<330	<330	<330	<330	<330	910	5,900	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA		<330	<330	<330	<330	400	1,400	4,900	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA		<330	<330	<330	<330	<330	480	4,800	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA		<330	<330	<330	<330	<330	410	<4,600	<330	<330	<330	<330	<330	<330	<330	<330			
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA		<330	<330	<330	<330	<330	680	8,700	<330	<330	<330	<330	<330	<330	<330	<330			
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA		<330	<330	<330	<330	<330	<330	<4,600	<330	<330	<330	<330	<330	<330	<330	<330			
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA		<330	<330	<330	<330	400	860	7,600	<330	<330	<330	<330	<330	<330	<330	<330			
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06		<330	<330	<330	<330	1,300	<330	25,000	<330	<330	<330	<330	<330	<330	<330	<330			
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA		<330	<330	<330	<330	<330	550	<4,600	<330	<330	<330	<330	<330	<330	<330	<330			
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000		<330	<330	<330	<330	4,200	<330	120,000	<330	<330	<330	<330	<330	<330	<330	<330			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000		<330	<330	<330	<330	470	<330	70,000	<330	<330	<330	<330	<330	<330	<330	<330			
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08		<330	<330	<330	<330	700	900	35,000	<330	<330	<330	<330	<330	<330	<330	<330			
Volatiles, VOCs µg/Kg																													
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)		<100	<100	<130	<120	<1,400	<130	<1,200	<130	<140	<140	<130	<150	<130	<130				
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)		<50	<50	<50	<50	<340	<50	<310	<50	<50	<50	<50	<50	<50	<50				
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)		<50	<53	<50	<50	<340	<50	<310	<50	<50	<50	<50	<50	<50	<50				
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000		<100	<100	<100	<100	<340	<100	350	<100	<100	<100	<100	<100	<100	<100				
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340		<50	<50	<50	<50	<340	<50	530	<50	<50	<50	<50	<50	<50	<50				
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)		<250	<250	<250	<250	590	<250	<310	<250	<250	<250	<250	<250	<250	<250				
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		<330	<330	<330	<330	<1,400	<330	14,000	<330	<330	<330	<330	<330	<330	<330				
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)		<100	<100	<100	<100	1,500	<100	670	<100	<100	<100	<100	<100	<100	<100				
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)		<50																	

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-31 (6-7)	SB-32 (3-4)	SB-32 (12-13)	SB-33 (3-4)	SB-33 (7-8)	SB-34 (1-2)	SB-34 (9-10)	SB-35 (1-2)	SB-35 (14-15)	SB-36 (3-4)	SB-36 (14-15)	SB-37 (5-6)	SB-37 (10-11)	SB-38 (5-6)	SB-38 (14-15)			
											Sample Date	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																													
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		12,000	4,600	6,000	7,200	6,700	13,000	7,200	6,000	6,700	2,300	6,500	12,000	8,000	21,000	7,700			
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA	61,000	75,000	48,000	41,000	42,000	150,000	39,000	140,000	39,000	8,200	42,000	49,000	54,000	79,000	43,000				
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA	180	120	110	100	110	450	94	<50	120	<50	91	150	120	56	130				
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA	17,000	13,000	15,000	16,000	16,000	19,000	16,000	19,000	15,000	6,300	16,000	17,000	16,000	25,000	16,000				
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA	15,000	12,000	14,000	13,000	14,000	17,000	13,000	12,000	13,000	2,000	14,000	17,000	15,000	21,000	14,000				
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA	9,200	6,000	6,500	6,700	7,000	9,200	6,700	8,600	6,200	2,200	6,500	9,300	7,800	16,000	7,200				
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50				
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA	230	9,200	<200	<200	<200	250	<200	220	<200	<200	<200	<200	300	360	310				
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100				
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA	40,000	25,000	39,000	38,000	39,000	44,000	40,000	40,000	39,000	8,800	37,000	43,000	42,000	56,000	44,000				
PCBs µg/Kg																													
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100			
Semivolatiles, BNAs µg/Kg																													
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	970	<330	<330	<330	<330	<330			
Semivolatiles, PNAs µg/Kg																													
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330			
Volatiles, VOCs µg/Kg																													
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)	<150	<130	<130	<130	<130	<140	<120	<150	<120	<1,300	<130	<120	<130	<100	<100				
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50				
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50				
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100				
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50				
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	2,400	<250	<250	<250	<250				
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330	<330				
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	4,900	<100	<100	<100	<100				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-39 (2-3)	SB-39 (6-7)	SB-40 (1-2)	SB-40 (9-10)	SB-41 (4-5)	SB-41 (6-7)	DUP-04 SB-41 (6-7)	SB-42 (1-2)	SB-42 (2-3)	SB-43 (5-6)	SB-44 (7-8)	SB-45 (2-3)	SB-46 (11-12)	SB-47 (4-5)		
											Sample Date	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	13512 Compass St	Hartwell St north of Compass St	13374 Compass St	13366 Compass St	14015 Ward Ave
Metals µg/Kg																											
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		3,800	6,800	5,000	8,600	7,200	11,000	8,100	4,300	8,600	7,000	4,200	5,200	3,700	2,700		
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA		29,000	51,000	36,000	65,000	66,000	47,000	48,000	39,000	72,000	31,000	33,000	180,000	31,000	21,000		
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA		190	110	140	180	250	100	120	170	120	<150	<130	250	<150	<130		
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA		5,300	16,000	14,000	17,000	12,000	15,000	17,000	9,200	18,000	12,000	9,900	13,000	7,200	6,000		
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA		5,500	15,000	9,200	14,000	17,000	14,000	14,000	5,200	12,000	9,600	8,000	15,000	6,100	5,400		
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA		7,800	7,300	6,400	8,200	17,000	7,600	7,100	6,000	9,000	5,500	5,200	140,000	4,400	13,000		
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390		<50	<50	<50	<50	<50	<50	<50	<50	<50	<14	<14	28	140	19		
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA		380	<200	8,600	270	590	<200	<200	280	300	<360	<320	<350	<370	<330		
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA		<100	<100	<100	<100	<100	<100	<100	<100	<100	<360	<320	<350	<370	<330		
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA		20,000	42,000	25,000	46,000	54,000	46,000	44,000	25,000	40,000	35,000	23,000	110,000	18,000	26,000		
PCBs µg/Kg																											
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID		<100	<100	<100	<100	<100	<100	<100	<100	<100	<65	<65	<66	<65	<65		
Semivolatiles, BNAs µg/Kg																											
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<32	<32	590	<33	<33		
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08		<330	<330	<330	<330	<330	<330	<330	<330	<330	<32	<32	420	<33	<33		
Semivolatiles, PNAs µg/Kg																											
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06		<330	<330	<330	<330	<330	<330	<330	<330	<330	<6.6	<6.4	840	<6.7	<6.6		
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID		<330	<330	<330	<330	<330	<330	<330	<330	<330	<6.6	<6.4	130	<6.7	<6.6		
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08		<330	<330	<330	<330	670	<330	<330	<330	<330	<6.6	<6.4	2,700	<6.7	<6.6		
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07		<330	<330	<330	<330	1,100	<330	<330	<330	<330	<6.6	<6.4	6,900	<6.7	18		
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA		<330	<330	<330	<330	930	<330	<330	<330	<330	<6.6	<6.4	5,800	<6.7	24		
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA		<330	<330	<330	<330	1,300	<330	<330	<330	<330	<6.6	<6.4	7,700	8	30		
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA		<330	<330	<330	<330	560	<330	<330	<330	<330	<6.6	<6.4	4,100	7.3	20		
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA		<330	<330	<330	<330	480	<330	<330	<330	<330	<6.6	<6.4	2,800	<6.7	13		
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA		<330	<330	<330	<330	1,100	<330	<330	<330	<330	<6.6	<6.4	6,000	<6.7	16		
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA		<330	<330	<330	<330	<330	<330	<330	<330	<330	<6.6	<6.4	990	<6.7	8.6		
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA		<330	<330	<330	<330	2,800	<330	<330	<330	<330	<6.6	<6.4	15,000	<6.7	35		
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06		<330	<330	<330	<330	400	<330	<330	<330	<330	<6.6	<6.4	1,000	<6.7	<6.6		
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA		<330	<330	<330	<330	580	<330	<330	<330	<330	<6.6	<6.4	5,000	<6.7	23		
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000		<330	<330	<330	<330	<330	<330	<330	<330	<330	<6.6	<6.4	120	<6.7	<6.6		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		-	-	-	-	-	-	-	-	-	<6.6	<6.4	99	<6.7	<6.6		
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000		<330	<330	<330	<330	2,400	<330	<330	<330	<330	<6.6	<6.4	9,800	<6.7	11		
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08		<330	<330	<330	<330	2,200	<330	<330	<330	<330	<6.6	<6.4	11,000	<6.7	35		
Volatiles, VOCs µg/Kg																											
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)		<100	<100	<100	<100	<100	770	770	<100	<100	<110	<110	<120	<110	<120		
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)		<50	<50	<50	<50	81	150	150	<50	<50	<32	<32	<36	<34	<36		
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)		<50	<50	<50	<50	<51	100	<50	<50	<50	<32	<32	<36	<34	<36		
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000		<100	<100	<100	<100	<100	<100	<100	<100	<100	<32	<32	<36	<34	<36		
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340		<50	<50	<50	<50	210	<50	<50	<50	<50	<32	<32	<36	<34	<36		
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)		<250	<250	<250	<250	<250	<250	<250	<250	<250	<32	<32	<36	<34	<36		
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		<330	<330	<330	<330	<330	<330	<330	<330	<330	<110	<110	<120	<110	<120		
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)		<100	<100	<100	<100	<100	<100	<100	<100	<100	<32	<32	<36	<34	<36		
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)		<50	<50	<50	<50	<51	<50	<50	<50	<50	<32	<32	<36	<34	<36		
1,1,2-Trichloroethane	79-00-5	NA	6,600 (X)	24,000	57,000	57,000	1.2E+5	2.5E+8	8.4E+5	6.6 (M)		<50	<50	<50	<50	<51	<50	<50	<50	<50	<32	<32	<36	<34	<36		
1,2,4-Trimethylbenzene (I)	95-63-6	NA																									

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-48 (2-3')	DUP-01 SB-48 (2-3')	SB-49 (2-3')	SB-50 (1-2')	SB-51 (3-4')	SB-52 (1-2')	SB-53 (2-3')	SB-54 (2-3')	SB-55 (0-1')	SB-56 (1-2')	SB-57 (3-4')	SB-58 (4-5')	SB-59 (4-5') + MS/MSD	SB-60 (1-2')	SB-61 (4-5')		
											Sample Date	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022
*(Refer to detailed laboratory report for method reference data)												Site	14031 Ward Ave	14031 Ward Ave	Kendall St west of Ward Ave	14101 Ward Ave	14111 Ward Ave	14123 Ward Ave	14117 Ward Ave	14145 Ward Ave	14159 Ward Ave	14179 Ward Ave	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																												
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA	5,000	4,100	4,500	5,400	10,000	9,200	5,700	5,600	10,000	2,300	8,200	3,400	2,000	3,800	10,000			
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA	80,000	65,000	47,000	63,000	270,000	65,000	52,000	76,000	120,000	35,000	98,000	26,000	85,000	31,000	49,000			
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA	470	410	<160	190	470	850	<150	440	350	<140	230	<150	<160	420	<130			
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA	11,000	11,000	34,000	11,000	16,000	36,000	11,000	17,000	6,400	7,500	6,400	5,500	19,000	8,300	14,000			
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA	17,000	15,000	8,400	11,000	5,900	940,000	9,500	15,000	29,000	2,800	52,000	3,600	6,900	8,900	11,000			
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA	190,000	150,000	12,000	69,000	11,000	190,000	12,000	63,000	86,000	5,600	51,000	4,500	5,200	32,000	7,600			
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390	65	75	27	120	20	32	26	73	54	19	85	23	23	25	<14			
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA	<380	360	510	<390	430	<380	<370	510	440	<350	580	<380	<410	<350	<330			
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA	<380	<350	<410	<390	<370	<380	<370	<410	<370	<350	<360	<380	<410	<350	<330			
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA	110,000	86,000	28,000	42,000	46,000	420,000	34,000	100,000	87,000	26,000	110,000	18,000	31,000	24,000	29,000			
PCBs µg/Kg																												
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID	<66	<65	<66	<66	<66	<65	<66	<66	<66	<290	<65	-	-	-	-	-		
Semivolatiles, BNAs µg/Kg																												
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA	<320	<160	<320	<33	<32	<160	<32	<320	<240	<33	<240	<33	<32	<160	<33			
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08	<320	240	<320	<33	<32	<160	<32	<320	410	<33	1,800	70	<32	<160	<33			
Semivolatiles, PNAs µg/Kg																												
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06	<64	<33	<66	16	<6.4	<32	<6.5	<65	<49	<6.7	<48	<6.6	<6.5	<33	27			
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID	<64	<33	<66	<6.6	<6.4	<32	<6.5	<65	<49	<6.7	<48	<6.6	<6.5	<33	<6.6			
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08	150	90	<66	110	<6.4	<32	35	<65	200	<6.7	820	25	<6.5	89	90			
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07	730	360	290	420	<6.4	110	250	<65	990	22	2,600	100	<6.5	310	170			
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA	680	350	310	330	7.1	160	240	160	1,100	25	2,800	99	<6.5	460	160			
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA	990	450	380	530	<6.4	250	270	200	1,600	31	3,900	140	<6.5	570	200			
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA	500	230	310	210	<6.4	130	120	91	770	17	2,500	58	<6.5	400	94			
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA	310	140	170	170	<6.4	88	110	84	480	13	1,200	42	<6.5	210	76			
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA	640	250	300	380	<6.4	150	200	<65	1,300	15	2,900	100	<6.5	270	140			
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA	150	67	100	55	<6.4	49	27	<65	220	<6.7	490	21	<6.5	100	25			
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA	1,400	610	350	920	<6.4	280	420	250	1,700	26	3,800	150	<6.5	480	410			
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06	<64	<33	<66	22	<6.4	<32	<6.5	<65	<49	<6.7	<48	<6.6	<6.5	<33	44			
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA	600	280	260	270	7.7	160	160	150	900	23	2,600	67	<6.5	490	120			
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000	270	1,600	<66	7.9	<6.4	110	<6.5	<65	1,200	8.0	6,700	290	51	870	8.0			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	250	1,300	<66	<6.6	<6.4	75	<6.5	<65	610	<6.7	1,500	150	<6.5	<33	9.3			
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000	640	490	140	400	<6.4	180	71	91	1,800	14	6,300	250	<6.5	200	280			
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08	1,400	590	450	730	<6.4	260	390	170	1,700	25	3,600	130	<6.5	540	290			
Volatiles, VOCs µg/Kg																												
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)	<170	<150	<130	<130	<120	<140	<120	<160	<150	<120	<180	<120	<120	<120	<110			
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000	NA	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	<170	<150	<130	<130	<120	<140	<120	<160	<150	<120	330	<120	<120	750	<110			
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	81	<34			
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)	95	<44	<39	<40	<37	<42	<36	<49	<46	<36	69	<37	<35	<37	<34			
1,1,2-Trichloroethane	79-00-5	NA	6,600 (X)	24,000	57,000	57,000	1.2E+5	2.5E+8	8.4E+5	6.6 (M)	<51	<44	<39	<40	<37	<42	<36	<49	<46	<36	<55	<37	<35	<37	<34			
1,2,4-Trimethylbenzene (I)	95-63-6	NA	570	8.0E+6 (C)	2.5E+7	6.0E+8	6.0E+8	3.6E+10	1.0E+																			

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	DUP-02 SB-61 (4-5')	SB-62 (3-4')	SB-63 (2-3')	SB-64 (1-2')	SB-65 (2-3')	SB-66 (1-2')	SB-67 (2-3')	SB-68 (3-4')	SB-69 (2-3')	SB-70 (2-3')	DUP-03 SB-70 (2-3')	SB-71 (1-2')	SB-72 (4-5') + MS/MSD	SB-74 (0-1')	SB-73 (2-3')			
											Sample Date	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022
*(Refer to detailed laboratory report for method reference data)												Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy
Metals µg/Kg																													
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA		5,800	2,300	9,500	2,000	3,600	1,300	8,200	9,500	4,100	3,900	2,600	2,300	6,600	1,700	5,300			
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA		53,000	19,000	120,000	260,000	40,000	9,300	110,000	48,000	33,000	76,000	240,000	31,000	49,000	100,000	76,000			
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA		<130	<140	510	2,900	420	<150	290	<140	1,700	260	<160	<140	<150	170	<140			
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA		14,000	5,900	13,000	24,000	14,000	3,900	13,000	28,000	22,000	7,300	8,100	4,600	13,000	15,000	3,500			
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA		11,000	5,200	45,000	19,000	24,000	5,600	19,000	40,000	41,000	16,000	14,000	14,000	11,000	8,200	12,000			
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA		7,300	7,500	130,000	44,000	130,000	15,000	31,000	6,600	270,000	44,000	64,000	28,000	6,800	16,000	9,400			
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390		<14	18	40	41	16	<14	27	18	31	21	350	<14	<14	18	23			
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA		<320	<340	<400	1,700	<380	<370	470	<360	<360	660	1,200	<340	<380	540	740			
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA		<320	<340	<400	<380	<380	<370	<400	<360	<360	<410	<390	<340	<380	<350	<350			
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA		30,000	20,000	92,000	48,000	71,000	9,200	46,000	23,000	86,000	33,000	21,000	23,000	34,000	34,000	7,600			
PCBs µg/Kg																													
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Semivolatiles, BNAs µg/Kg																													
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA		<32	<320	2,400	<330	<320	<32	<330	<32	<32	<160	<330	<33	<33	<320	<4500			
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08		<32	1,500	5,100	<330	<320	<32	<330	<32	<32	<160	<330	<33	<33	<320	<4500			
Semivolatiles, PNAs µg/Kg																													
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06		36	2,100	6,000	<66	<64	<6.5	130	<6.6	<6.6	88	200	<6.6	<6.6	160	<900			
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID		<6.5	120	780	<66	<64	<6.5	<66	<6.6	<6.6	<32	<67	<6.6	<6.6	<64	<900			
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08		130	4,000	21,000	<66	<64	<6.5	590	7.2	<6.6	210	640	35	<6.6	550	<900			
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07		220	5,500	43,000	220	<64	<6.5	1,500	<6.6	17	550	1,700	330	<6.6	1,200	<900			
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA		190	5,100	40,000	260	170	19	1,400	12	15	470	1,500	320	<6.6	970	<900			
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA		250	6,500	52,000	340	180	21	1,800	<6.6	31	650	2,100	450	<6.6	1,300	<900			
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA		110	2,600	17,000	180	170	15	690	7.9	27	300	1,000	210	<6.6	530	<900			
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA		92	2,400	17,000	130	83	11	650	<6.6	9.8	230	770	170	<6.6	470	<900			
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA		210	4,600	36,000	160	<64	<6.5	1,100	<6.6	18	530	1,700	330	<6.6	1,100	<900			
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA		24	620	4,400	<66	70	<6.5	200	<6.6	<6.6	75	210	49	<6.6	120	<900			
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA		590	14,000	100,000	360	220	21	3,700	22	29	1,400	4,300	610	<6.6	2,600	<900			
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06		62	2,700	8,100	<66	<64	<6.5	150	<6.6	<6.6	88	270	<6.6	9.9	180	3,800			
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA		130	3,500	24,000	240	200	20	970	10	27	350	1,100	250	<6.6	670	<900			
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000		<6.5	410	2,600	450	<64	<6.5	<66	<6.6	33	55	73	28	<6.6	<64	91,000			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		<6.5	1,500	1,400	400	<64	<6.5	<66	<6.6	13	130	140	18	<6.6	<64	93,000			
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000		420	12,000	70,000	300	110	<6.5	1,700	17	20	690	2,200	140	<6.6	2,000	2,500			
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08		390	10,000	72,000	320	190	15	2,700	16	28	970	2,900	480	<6.6	2,000	<900			
Volatiles, VOCs µg/Kg																													
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)		<89	<120	<150	<170	<110	<130	<120	<120	<140	<140	<96	<160	<110	<120	<14,000			
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900		<89	1,500	1,400	<170	<110	<130	<120	<120	<140	<140	<96	<160	<110	<120	92,000			
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)		<27	<35	<46	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)		<27	<35	52	<51	<32	<39	<35	<37	<41	<42	<29	<49	<33	<36	<4,300			
1,1,2-Trichloroethane	79-00-5	NA	6,600 (X)	24,000	57,000																								

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Statewide Default Background Levels	Groundwater Surface Water Interface Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	NonResidential Particulate Soil Inhalation Criteria	Nonresidential Direct Contact Criteria	Nonresidential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Sample Location	SB-73 (3-4')	SB-75 (3-4')	SB-76 (2-3')	SB-77 (4-5')	DUP-04 SB-77 (4-5')	SB-78 (1-2')	SB-79 (4-5')	SB-80 (3-4')	SB-81 (2-3')
											Sample Date	2/7/2022	2/7/2022	2/7/2022	2/7/2022	2/7/2022	2/7/2022	2/7/2022	2/7/2022	2/7/2022
*(Refer to detailed laboratory report for method reference data)											Site	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	14044 Schaefer Hwy	
Metals µg/Kg																				
Arsenic	7440-38-2	5,800	4,600	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA	2,300	4,400	1,000	2,800	6,100	3,600	8,200	6,200	5,300	5,300
Barium (B)	7440-39-3	75,000	3,200,000 (G)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA	16,000	39,000	9,400	88,000	79,000	17,000	74,000	36,000	66,000	66,000
Cadmium (B)	7440-43-9	1,200	2,600 (G,X)	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA	<150	280	<160	<160	<150	<160	<130	<150	210	210
Chromium, Total	7440-47-3	18,000 (total)	3,300	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA	4,300	7,100	4,500	18,000	17,000	5,400	13,000	11,000	9,300	9,300
Copper (B)	7440-50-8	32,000	760,000 (G)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA	2,500	61,000	2,600	9,600	12,000	6,900	16,000	39,000	16,000	16,000
Lead (B)	7439-92-1	21,000	3,800 (G,X)	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA	2,500	110,000	5,100	7,300	8,000	7,700	19,000	22,000	48,000	48,000
Mercury, Total	7439-97-6	130	50 (M); 1.2	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	390	<18	25	<19	29	29	<19	20	37	46	46
Selenium (B)	7782-49-2	410	400	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA	<380	630	<400	<400	<370	<400	<320	<370	<380	<380
Silver (B)	7440-22-4	1,000	100 (M); 27	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA	<380	<340	<400	<400	<370	<400	<320	<370	<380	<380
Zinc (B)	7440-66-6	47,000	320,000 (G)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA	8,400	42,000	13,000	44,000	43,000	26,000	41,000	65,000	47,000	47,000
PCBs µg/Kg																				
Polychlorinated biphenyls (PCBs) (J,T)	1336-36-3	NA	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	ID	-	-	-	-	-	-	-	-	-	-
Semivolatiles, BNAs µg/Kg																				
Carbazole	86-74-8	NA	1,100	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA	<240	<200	<33	<32	<33	<32	<32	<33	<33	<230
Dibenzofuran	132-64-9	NA	1,700	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	1.3E+08	<240	<200	<33	<32	<33	530	<32	37	2,500	2,500
Semivolatiles, PNAs µg/Kg																				
Acenaphthene	83-32-9	NA	8,700	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	3.6E+06	<48	<41	<6.6	<6.5	<6.6	<6.6	24	17	1,300	1,300
Acenaphthylene	208-96-8	NA	ID	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	ID	<48	<41	<6.6	<6.5	<6.6	<6.6	<6.5	16	500	500
Anthracene	120-12-7	NA	ID	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	2.2E+08	62	740	<6.6	<6.5	<6.6	17	36	89	12,000	12,000
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.10E+07	120	530	16	<6.5	<6.6	33	40	300	17,000	17,000
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA	86	510	19	<6.5	<6.6	26	24	270	14,000	14,000
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	ID	ID	ID	ID	ID	80,000	NA	120	710	26	<6.5	<6.6	45	34	360	18,000	18,000
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA	52	380	17	<6.5	<6.6	34	14	170	8,100	8,100
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA	52	240	10	<6.5	<6.6	21	14	110	7,300	7,300
Chrysene (Q)	218-01-9	NA	NLL	ID	ID	ID	ID	ID	8.0E+6	NA	76	550	12	<6.5	<6.6	27	28	310	17,000	17,000
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA	<48	77	<6.6	<6.5	<6.6	7.2	<6.5	35	1,800	1,800
Fluoranthene	206-44-0	NA	5,500	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA	230	1,700	13	<6.5	<6.6	56	120	630	55,000	55,000
Fluorene	86-73-7	NA	5,300	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	8.3E+06	1,500	1,400	<6.6	<6.5	<6.6	<6.6	40	26	4,700	4,700
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA	76	440	23	<6.5	<6.6	43	20	200	11,000	11,000
2-Methylnaphthalene	91-57-6	NA	4,200	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	30,000	13,000	12,000	13	<6.5	<6.6	5,300	800	120	1,500	1,500
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	13,000	1,700	8	<6.5	<6.6	1,700	760	110	1,400	1,400
Phenanthrene	85-01-8	NA	2,100	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	29,000	720	2,300	<6.6	<6.5	<6.6	190	140	320	80,000	80,000
Pyrene	129-00-0	NA	ID	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	4.4E+08	220	1,400	15	<6.5	<6.6	55	100	530	42,000	42,000
Volatiles, VOCs µg/Kg																				
Acrylonitrile (I)	107-13-1	NA	100 (M); 40	35,000	17,000	17,000	31,000	5.8E+7	74,000	34 (M)	<9,100	<1,200	<130	<110	<110	<120	<120	<130	<120	<120
Benzene (I)	71-43-2	NA	4,000 (X)	8,400	45,000	99,000	2.3E+5	4.7E+8	8.4E+5 (C)	47 (M)	<2,700	<350	<38	<34	<34	<36	930	<38	<35	<35
Chloroform	67-66-3	NA	7,000	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	5.5E+6 (C)	7.4 (M)	<2,700	<350	<38	<34	<34	<36	<35	63	<35	<35
1,2-Dichlorobenzene	95-50-1	NA	280	2.0E+7 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	6.3E+7 (C)	26,000	<2,700	<350	<38	<34	<34	<36	<35	<38	<35	<35
Ethylbenzene (I)	100-41-4	NA	360	4.6E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	7.1E+7 (C)	340	<2,700	<350	<38	<34	<34	59	1,600	<38	79	79
Isopropyl benzene	98-82-8	NA	3,200	7.3E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	8.0E+7 (C)	110 (M)	<2,700	<350	<38	<34	<34	<36	<35	<38	<35	<35
Naphthalene	91-20-3	NA	730	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	1,900	13,000	1,400	<130	<110	<110	1,700	800	<130	1,100	1,100
n-Propylbenzene (I)	103-65-1	NA	ID	ID	ID	ID	ID	5.9E+8	8.0E+6	21,000 (DD)	<2,700	1,100	<38	<34	<34	250	340	<38	100	100
Toluene (I)	108-88-3	NA	5,400	6.1E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	1.6E+8 (C)	64,000 (EE)	<2,700	<350	<38	<34	<34	<36	240	<38	<35	<35
1,1,2-Trichloroethane	79-00-5	NA	6,600 (X)	24,000	57,000	57,000	1.2E+5	2.5E+8	8.4E+5	6.6 (M)	<2,700	<350	<38	<34	<34	<36	<35	<38	<35	<35
1,2,4-Trimethylbenzene (I)	95-63-6	NA	570	8.0E+6 (C)	2.5E+7	6.0E+8	6.0E+8	3.6E+10	1.0E+8 (C)	2,600 (J,T)	13,000	7,800	<38	<34	<34	1,200	1,200	<38	900	900
1,3,5-Trimethylbenzene (I)	108-67-8	NA	1,100	4.8E+6 (C)	1.9E+7	4.6E+8	4.6E+8	3.6E+10	1.0E+8 (C)	1,800 (J,T)	<9,100	<1,200	<130	<110	<110	490	490	<130	260	260
Xylenes (I)	1330-20-7	NA	980	1.2E+7 (C)	5.4E+7	6.5E+7	1.3E+8	1.3E+11	1.0E+9 (C,D)	5,000 (J)	<8,200	1,300	<110	<100	<100	150	2,900	<110	150	150

Concentrations are reported in micrograms per kilogram (µg/Kg)

Concentrations less than the Statewide Default Background Levels are not indicated as exceedances

Grey shaded cells indicate compound was detected

Green shaded cells indicate an exceedance of Groundwater Surface Water Interface Protection Criteria

Yellow shaded cells indicate an exceedance of Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria

Blue shaded cells indicate an exceedance of Infinite Source Soil Volatile Inhalation Criteria, Finite VSIC for 5 Meter Source Thickness, and/or Finite VSIC for 2 Meter Source Thickness

Orange shaded cells indicate an exceedance of Nonresidential Direct Contact Criteria

Italic text indicates an exceedance of Particulate Soil Inhalation Criteria

Red text indicates an exceedance of Non-Residential Soil Volatilization to Indoor Air Pathway (VIAP) Screening Levels

ID - Insufficient data to develop criterion

NA - Not applicable or not available

NLV - Hazardous substance is not likely to volatilize under most conditions

NLL - Hazardous substance is not likely to leach under most conditions

(B) - Background may be substituted if higher than the calculated cleanup criterion

(C) - Calculated criterion exceeds the chemical-specific soil saturation screening level

(D) - Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 ppb

(DD) - Hazardous substance causes developmental effects

(EE) - The acceptable air concentration (AAC) for the volatile hazardous

(G) - GSI criterion depends on the pH or water hardness, or both, of the receiving surface water. Due to the lack of a final chronic value (FCV) or wildlife value (WV), the Human Non-Drinking Water Value (HNDV) is shown.

(I) - Hazardous substance may exhibit the characteristic of ignitability

(J) - Hazardous substance may be present in several isomer forms

(M) - Site-specific criterion may be below target detection limits

(Q) - Criteria for carcinogenic polycyclic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene

(T) - Refer to federal Toxic Substances Control Act (TSCA) to determine TSCA cleanup standards

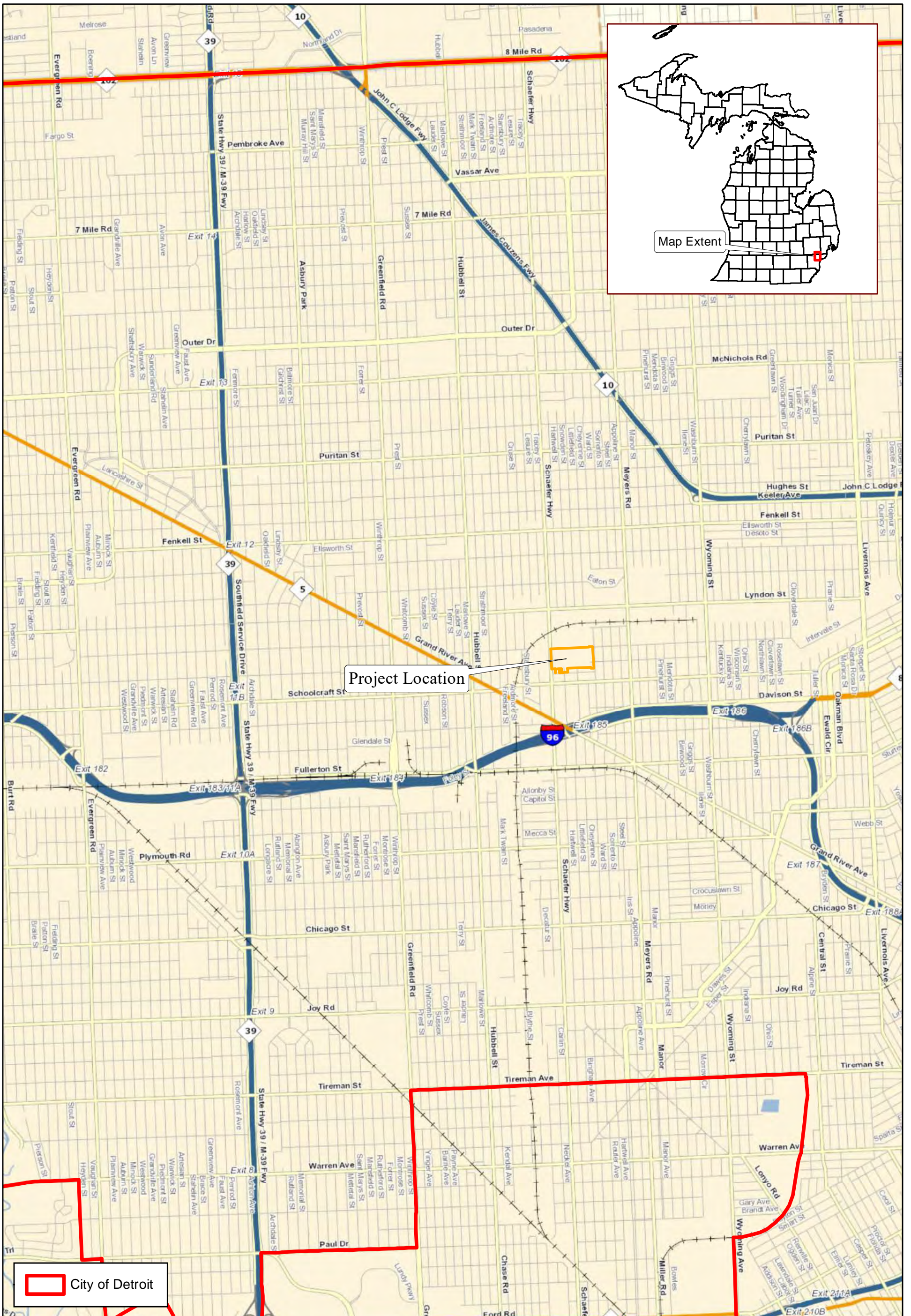
(X) - The GSI criterion is not protective of surface water that is used as a drinking water source

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
Former Coolidge Bus Terminal and Vicinity
14044 Schaefer Highway, Detroit, Michigan

Parameters*	Chemical Abstract Service Number	Groundwater Surface Water Interface Criteria & RBSLs	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels for shallow groundwater	Water Solubility	Flammability and Explosivity Screening Level	Sample Location	TW-01	TW-06	TW-08	TW-09	TW-15	TW-20	TW-27	(TW-27) Duplicate	TW-33	TW-62	(TW-62) Duplicate	TW-67	TW-73	TW-80	
							Collection Date	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	2/9/2022	2/9/2022
Metals µg/L																						
Arsenic	7440-38-2	10	NLV	NA	ID	ID		13	<5.0	22	-	<5.0	<5.0	8.4	9.4	16	<5.0	<5.0	<5.0	62	<5.0	
Barium (B)	7440-39-3	160,000 (G)	NLV	NA	ID	ID		100	110	240	-	<100	<100	<100	<100	<100	37	37	40	58	38	
Copper (B)	7440-50-8	38,000 (G)	NLV	NA	ID	ID		<4.0	4.8	<4.0	-	<4.0	<4.0	<4.0	<4.0	<4.0	<5.0	<5.0	<5.0	<5.0	8.8	
Lead (B)	7439-92-1	190 (G,X)	NLV	NA	ID	ID		<3.0	<3.0	38	-	<3.0	<3.0	<3.0	<3.0	<3.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Selenium (B)	7782-49-2	5.0	NLV	NA	NA	ID		<5.0	<5.0	<5.0	-	<5.0	35	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Semivolatiles, BNA µg/L																						
Carbazole	86-74-8	10 (M); 4.0	NLV	NA	7,480	ID		<5.0	140	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<4.0	-	-	<1.0	
Dibenzofuran	132-64-9	4.0	10,000 (S)	3,100 (S)	10,000	ID		<4.0	70	5.9	-	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0	<4.0	-	-	<1.0	
Diethyl phthalate	84-66-2	110	NLV	NA	11,200	NA		<5.0	<5.4	40	-	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<4.0	-	-	<1.0	
2,4-Dimethylphenol	105-67-9	380	NLV	NA	7.87E+06	ID		<5.0	34	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<4.0	-	-	<1.0	
Methylphenols (J)	1319-77-3	30 (M); 25	NLV	NA	2.80E+07	NA		<15	25	<15	-	<15	<15	<15	<15	<15	<1.0	<4.0	-	-	<1.0	
Semivolatiles, PNAs µg/L																						
Acenaphthene	83-32-9	38	4,200 (S)	3,900 (S)	4,240	ID		<5.0	83	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<0.10	<0.40	-	-	0.10	
Anthracene	120-12-7	ID	43 (S)	43 (S)	43.4	ID		<5.0	150	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<0.10	<0.40	-	-	0.22	
Benzo(a)anthracene (Q)	56-55-3	ID	NLV	9.4 (S)	9.4	ID		<1.1	100	1.2	-	<1.1	8.8	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.44	
Benzo(a)pyrene (Q)	50-32-8	ID	NLV	NA	1.62	ID		<1.1	81	<1.0	-	<1.1	9.5	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.35	
Benzo(b)fluoranthene (Q)	205-99-2	ID	ID	NA	1.5	ID		<1.1	110	1.3	-	<1.1	13	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.47	
Benzo(g,h,i)perylene	191-24-2	ID	NLV	NA	0.8	ID		<1.1	55	<1.0	-	<1.1	9.2	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.2	
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLV	NA	0.26	ID		<1.1	40	<1.0	-	<1.1	4.8	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.17	
Chrysene (Q)	218-01-9	ID	ID	NA	1.6	ID		<1.1	96	<1.0	-	<1.1	7.6	<1.1	<1.1	<1.3	<0.10	<0.40	-	-	0.36	
Dibenzo(a,h)anthracene (Q)	53-70-3	ID	NLV	NA	2.49	ID		<2.0	14	<2.0	-	<2.0	2.0	<2.0	<2.0	<2.0	<0.10	<0.40	-	-	<0.10	
Fluoranthene	206-44-0	1.6	210 (S)	NA	206	ID		<1.1	280	3.6	-	<1.1	16	1.4	<1.1	<1.3	0.16	<0.40	-	-	0.90	
Fluorene	86-73-7	12	2,000 (S)	1,700 (S)	1,980	ID		<5.0	110	6.3	-	<5.0	<5.0	<5.0	<5.0	<5.0	<0.10	<0.40	-	-	<0.10	
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	ID	NLV	NA	0.022	ID		<2.0	59	<2.0	-	<2.0	8.8	<2.0	<2.0	<2.0	<0.10	<0.40	-	-	0.27	
2-Methylnaphthalene	91-57-6	19	25,000 (S)	110	24,600	ID		<5.0	58	140	13	59	<5.0	7.3	<5.0	<5.0	<0.10	<0.40	-	-	<0.10	
Phenanthrene	85-01-8	2.0 (M); 1.7	1,000 (S)	15	1,000	ID		<2.0	380	7.9	-	<2.0	7.9	2.9	<2.0	<2.0	0.20	<0.40	-	-	0.60	
Pyrene	129-00-0	ID	140 (S)	140 (S)	135	ID		<5.0	200	<5.0	-	<5.0	14	<5.0	<5.0	<5.0	0.13	<0.40	-	-	0.64	
Volatiles, VOCs µg/L																						
Benzene (I)	71-43-2	200 (X)	35,000	8.4	1.75E+06	68,000		<1.0	<1.0	99	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	
Bromodichloromethane	75-27-4	ID	37,000	4.9	6.74E+06	ID		<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	
Chloroform	67-66-3	350	1.8E+5	3.1	7.92E+06	ID		<1.0	<1.0	<1.0	<1.0	2.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	
Ethylbenzene (I)	100-41-4	18	1.7E+5 (S)	28	1.69E+05	43,000		<1.0	<1.0	22	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	
Naphthalene	91-20-3	11	31,000 (S)	12	31,000	NA		<5.0	940	320	7.7	53	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	690	<5.0	
n-Propylbenzene (I)	103-65-1	ID	ID	970 (DD)	NA	ID		<1.0	<1.0	4.4	<1.0	3.7	<1.0	<1.0	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	31	<1.0
Toluene (I)	108-88-3	270	5.3E+5 (S)	6,600 (FF)	5.26E+05	61,000		<1.0	1.5	5.0	2.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	<25	<1.0	
1,2,4-Trimethylbenzene (I)	95-63-6	17	56,000 (S)	120 (JT)	55,890	56,000 (S)		<1.0	<1.0	2.1	1.1	61	<1.0	1.1	<1.0	<1.0	<5.0	<5.0	<5.0	580	<5.0	
1,3,5-Trimethylbenzene (I)	108-67-8	45	61,000 (S)	110 (JT)	61,150	ID		<1.0	<1.0	3.4	<1.0	12	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	170	<5.0	
Xylenes (I)	1330-20-7	49	1.9E+5 (S)	410 (J)	1.86E+05	70,000		<3.0	<3.0	31	<3.0	9.1	<3.0	<3.0	<3.0	<3.0	<5.0	<5.0	<5.0	210	<5.0	

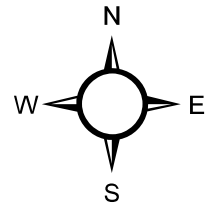
Notes:
Only detected analytes or compounds are listed
Concentrations are in micrograms per liter (µg/L)
Grey shaded cells indicates compound was detected
Blue shaded cells indicate an exceedance of Groundwater Surface Water Interface Criteria
Orange shaded cells indicate an exceedance of the Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC)
Purple shaded cells indicate an exceedance of the Water Solubility Screening Level
Red text indicates an exceedance of the VIAP
ID - Insufficient data to develop criterion
NA - Not applicable
NCE - No criteria established
NLV - Hazardous substance is not likely to volatilize under most conditions
- Not sampled or not analyzed
(B) - Background may be substituted if higher than the calculated cleanup criterion
(I) - Hazardous substance may exhibit the characteristic of ignitability
(G) - GSI criterion calculated per Generic Facility-Specific Part 201 calculation using generic default values. Metals values shown reference the Human Non Drinking Water Value (HNDV) listed in (G) of R 299.49 Footnotes for Generic Cleanup Criteria Tables.
(J) - Hazardous substance may be present in several isomer forms
(Q) - Criteria for carcinogenic polycyclic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene
(S) - Criterion defaults to the hazardous substance-specific water solubility limit.
(DD) - Hazardous substance causes developmental effects
(FF) - The acceptable air concentration (AAC) for the volatile hazardous substance are based on toxicity values that have been identified to have the potential to cause adverse human health effects for less than chronic exposures
(JT) - Hazardous substance may be present in several isomer forms. The VIAP Screening level may be used for the individual isomer provided that it is the sole isomer detected.

FIGURES



Project Location

City of Detroit



0 1,400 2,800
1 inch = 3,009 feet

Figure 1
Project Location
 Former Coolidge Bus Terminal and Vicinity
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority

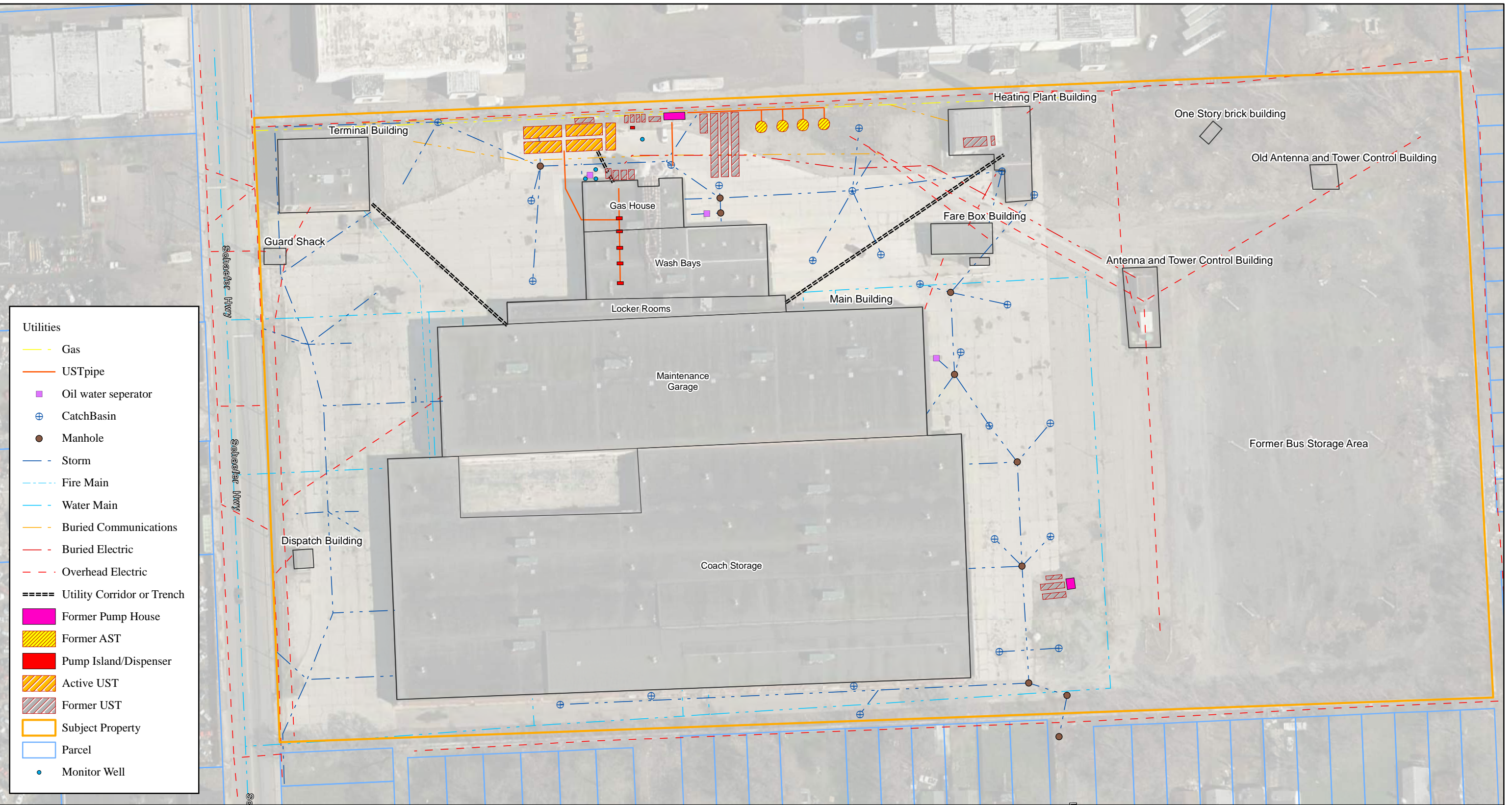




Figure 2
Subject Property
Former Coolidge Bus Terminal and Vicinity
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority

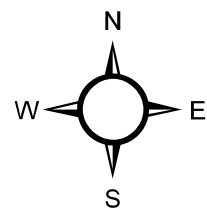


Fig: 2



Utilities

- Gas
- UST pipe
- Oil water separator
- ⊕ Catch Basin
- Manhole
- Storm
- Fire Main
- Water Main
- Buried Communications
- Buried Electric
- Overhead Electric
- Utility Corridor or Trench
- Former Pump House
- ▨ Former AST
- Pump Island/Dispenser
- ▨ Active UST
- ▨ Former UST
- ▭ Subject Property
- ▭ Parcel
- Monitor Well

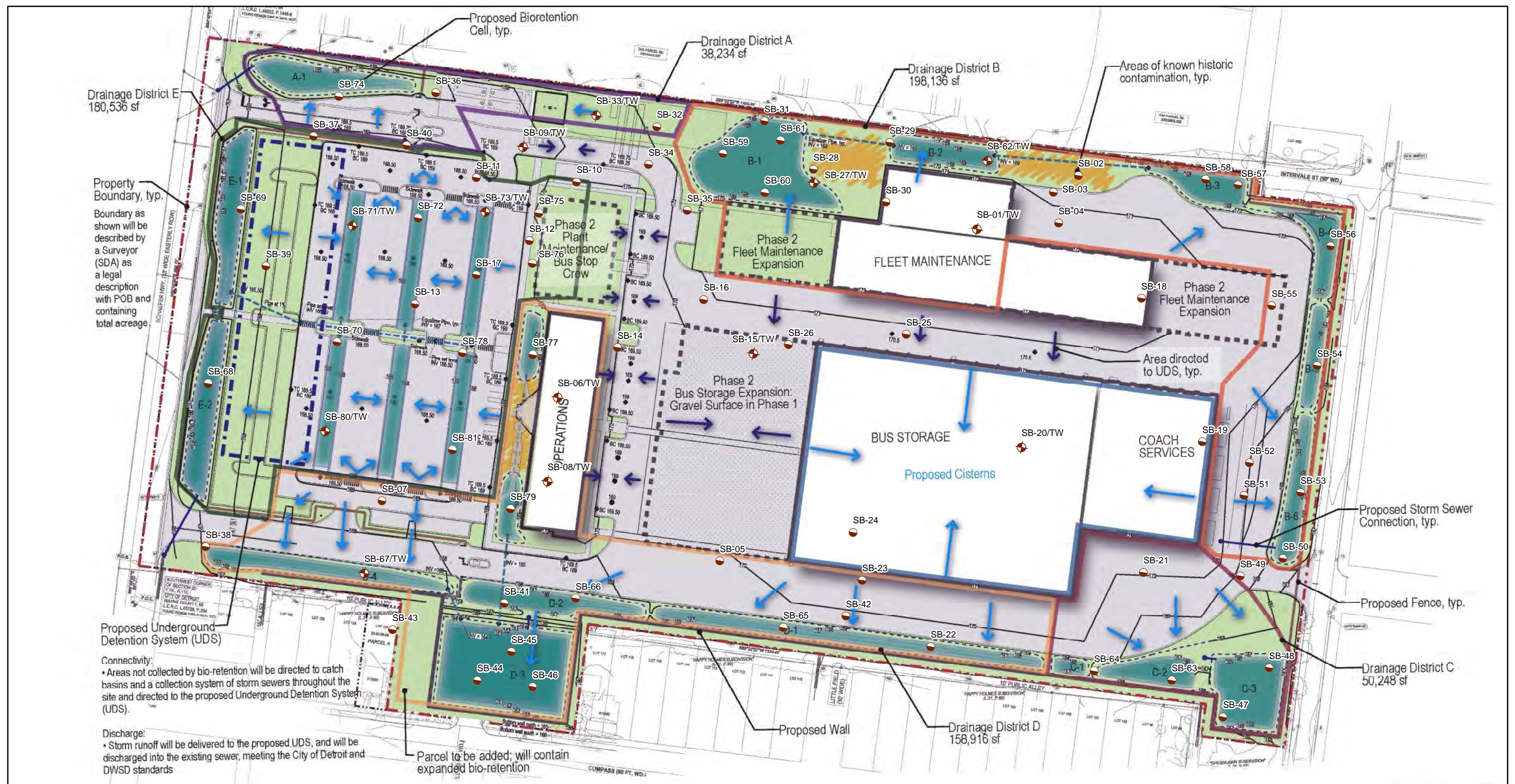


0 50 100
1 inch = 100 feet

Figure 3
Subsurface and Related Infrastructure
Former Coolidge Bus Terminal
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority



Fig: 3



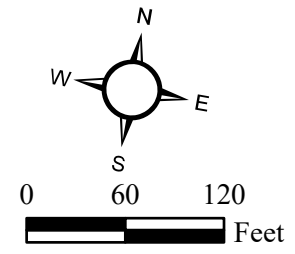
Property Boundary, typ.
Boundary as shown will be described by a Surveyor (SDA) as a legal description with POB and containing total acreage.

Proposed Underground Detention System (UDS)

Connectivity:
• Areas not collected by bio-retention will be directed to catch basins and a collection system of storm sewers throughout the site and directed to the proposed Underground Detention System (UDS).

Discharge:
• Storm runoff will be delivered to the proposed UDS, and will be discharged into the existing sewer, meeting the City of Detroit and DWSD standards

Figure 4
Soil & Groundwater Sample Location Map
Stormwater Management Areas
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority



Legend

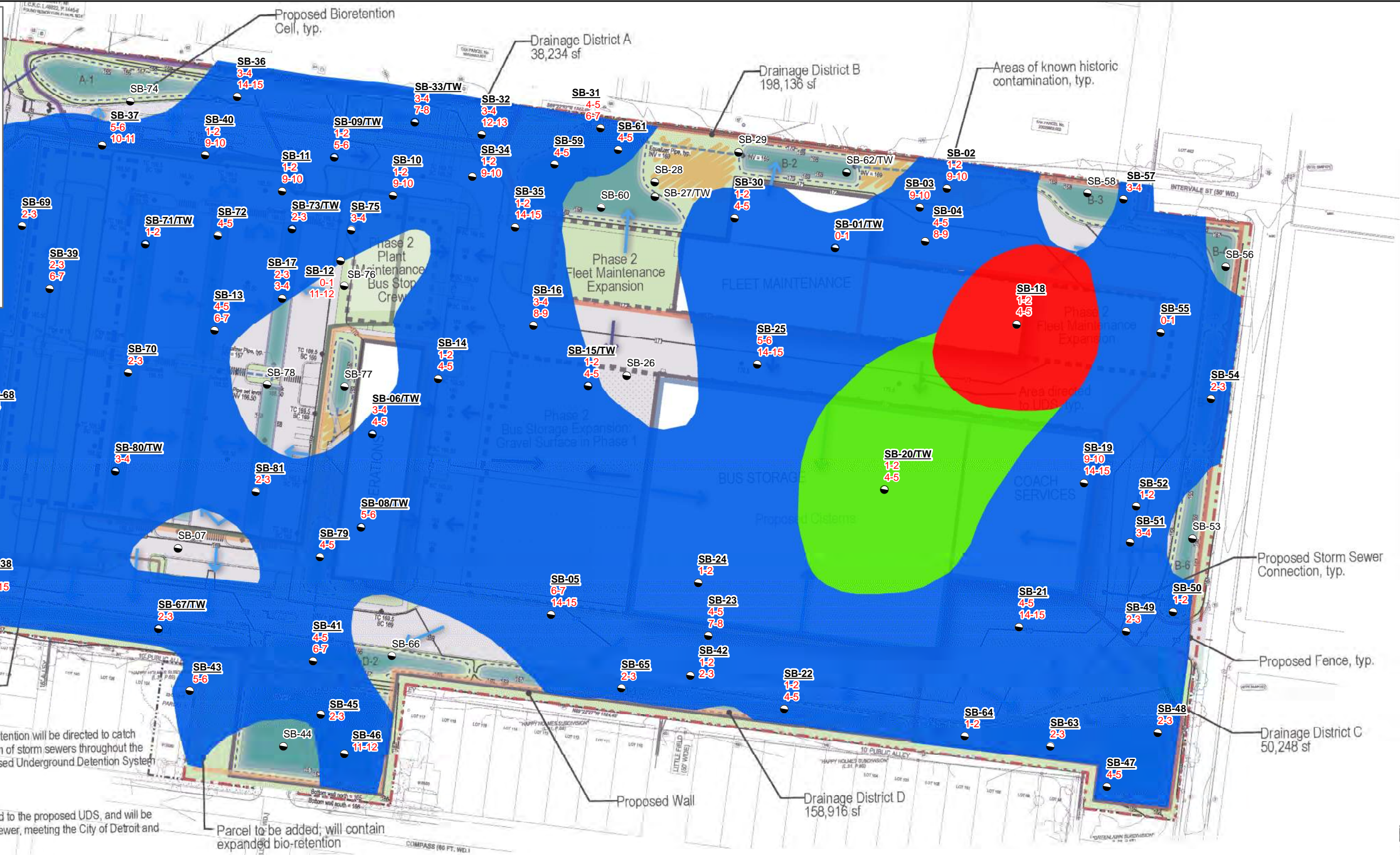
- Soil Boring Location
- Areas where sample results exceeded GSIP
- Areas where sample results exceeded GSIP and NDC
- Areas where sample results exceeded GSIP, NDC and PSIC
- ➔ Anticipated Stormwater Flow
- Bioswale/Stormwater Management Areas
- Vegetated Areas

description with POB and containing total acreage.

Proposed Underground Detention System (UDS)

Connectivity:
• Areas not collected by bio-retention will be directed to catch basins and a collection system of storm sewers throughout the site and directed to the proposed Underground Detention System (UDS).

Discharge:
• Storm runoff will be delivered to the proposed UDS, and will be discharged into the existing sewer, meeting the City of Detroit and DWSD standards



SB-01 Boring ID
(1-2) Sample Interval in feet below ground surface

Michigan Department of Environment, Great Lakes, and Energy
Non Residential Generic Cleanup Criteria
GSIP - Groundwater Surface Water Interface Protection Criteria
PSIC - Non-Residential Particulate Soil Inhalation Criteria
NDC - Nonresidential Direct Contact Criteria

Figure 5
Metals in Soil
Coolidge Bus Terminal
14044 Schaefer Hwy
Detroit, MI 48227
Detroit Building Authority

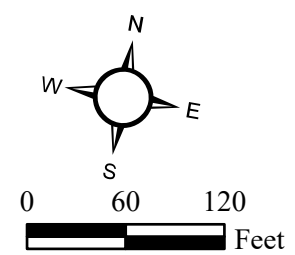
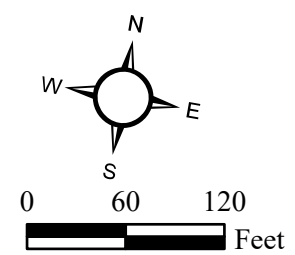
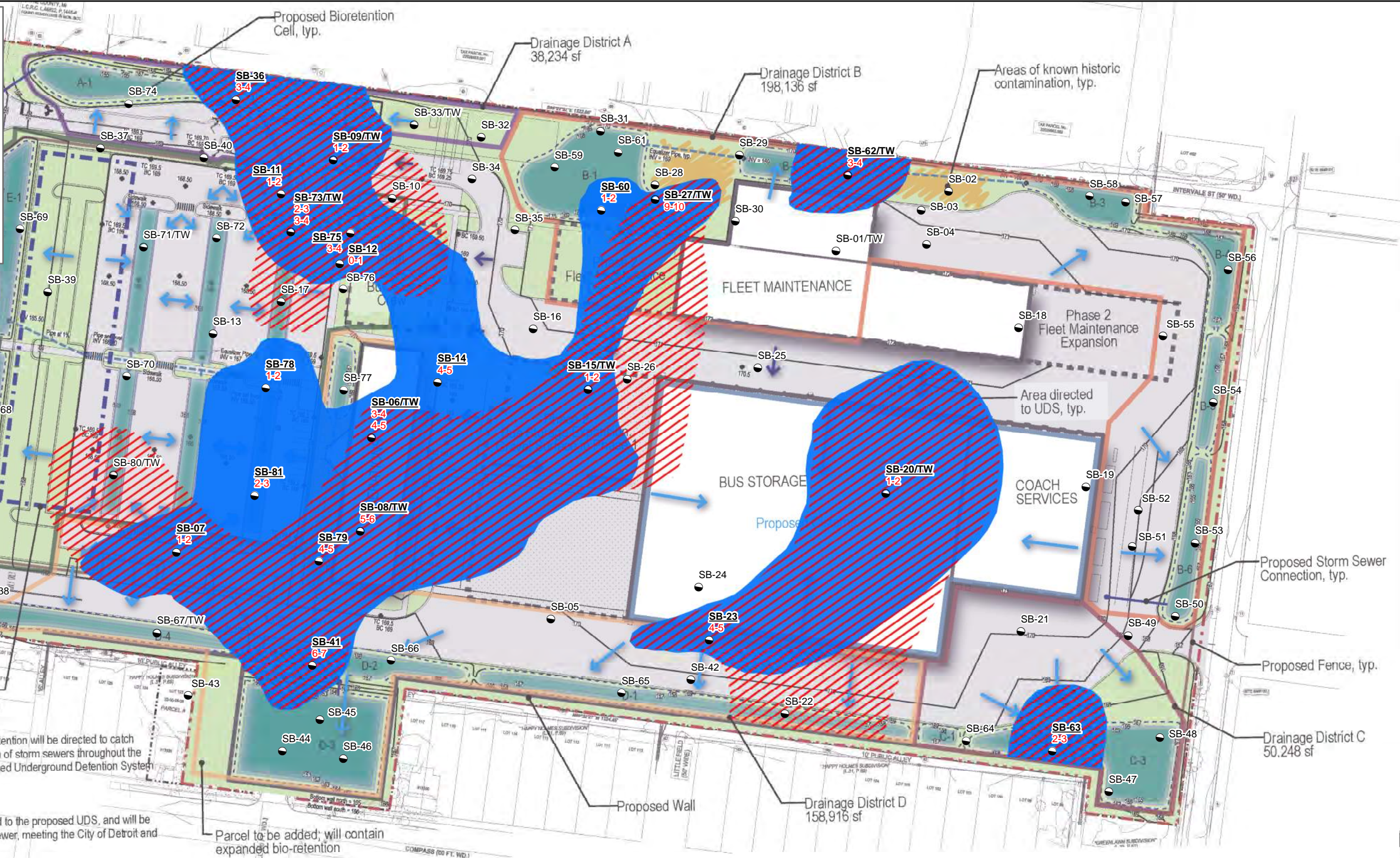




Figure 6
Semi-Volatile Organic Compounds in Soil
Coolidge Bus Terminal
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority



- Legend**
- Soil Boring Location
 - ▨ Areas where sample results exceeded VIAP
 - Areas where sample results exceeded GSIP
 - ➔ Anticipated Stormwater Flow
 - Bioswale/Stormwater Management Areas
 - Vegetated Areas



a Surveyor (SDA) as a legal description with POB and containing total acreage.

Proposed Underground Detention System (UDS)

Connectivity:
 • Areas not collected by bio-retention will be directed to catch basins and a collection system of storm sewers throughout the site and directed to the proposed Underground Detention System (UDS).

Discharge:
 • Storm runoff will be delivered to the proposed UDS, and will be discharged into the existing sewer, meeting the City of Detroit and DWSD standards

SB-01 Boring ID
 (1-2) Sample Interval in feet below ground surface

● Michigan Department of Environment, Great Lakes, and Energy
 Non Residential Generic Cleanup Criteria
 GSIP - Groundwater Surface Water Interface Protection Criteria
 VIAP - Non-Residential Soil Volatilization to Indoor Air Pathway Screening Levels

Figure 7
Volatile Organic Compounds in Soil
Coolidge Bus Terminal
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority

DLZ
 ARCHITECTURE • ENGINEERING • PLANNING
 SURVEYING • CONSTRUCTION SERVICES

0 60 120 Feet



Figure 8
Groundwater Location Map
Coolidge Bus Terminal
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority

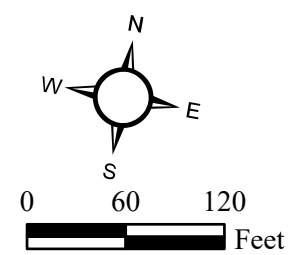
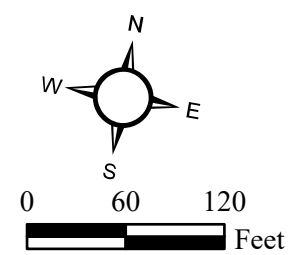




Figure 9
Contaminants in Groundwater
Coolidge Bus Terminal
 14044 Schaefer Hwy
 Detroit, MI 48227
 Detroit Building Authority



APPENDIX A
SOIL BORING LOGS



LOG OF BORING SB-01/TW-01

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/21/2019	DLZ Project #	: 1942-6994-50
Location	: NE portion of Site	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Gray/Brown sandy CLAY and fine gravel, trace coarse gravel (0-1.5')	Soil sample collected (0-1')
1		0.9				CL			
2		0				CL	Brown silty CLAY, fine to coarse gravel (1.5-2')		
3	1		4/5'			CL	Gray/Brown silty CLAY, fine gravel, trace coarse gravel and brick debris, medium stiff (2-3.5')		
4		0.7				CL			
5		0.8				CL	Olive gray silty CLAY, medium stiff (3.5-5')		
6		0.4				CL	Brown/Gray mottled CLAY, stiff (5-6')		
7		0				CL	Gray silty CLAY, fine gravel, soft, moist (6-7.5')		
8	2		5/5'			CL	Brown CLAY, trace fine gravel, very stiff (7-15')	Water sample collected (9-14')	
9		0				CL	Moist at 10'		
10		0				CL	Wet at 11'		
11		0				CL			
12	3		5/5'			CL			
13		0				CL			
14		0				CL			
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

01-08-2020 x:\Projects\Lan\PROJ\1942\6994_Former_Coolidge_Bus_Terminal\Environmental\Field_Data\Boring_logs\Mech_logs\SB-01_BOR



LOG OF BORING SB-02

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : City of Detroit Building Authority Driller : Rhex
 Geologist : Kendall Gustafson Drill Method : Geoprobe
 Date : 11/21/2019 DLZ Project # : 1942-6994-50
 Location : NE corner of Site Ground Elevation :
 Drilling Co. : Fibertec TOC Elevation :

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0						PT		ORGANICS/TOPSOIL (0-0.5')	
1		0				SW		Black medium to coarse SAND, fine gravel, trace coarse gravel (0.5-2')	Soil sample collected (1-2')
2		0				SW		Yellow Orange fine to coarse SAND, fine gravel (2-2.5')	
3	1	0	4/5'			SW		Black/Brown fine to medium SAND, fine gravel (2.5-4.5')	
4		0				SW			
5		0				SM		Brown silty SAND (4.5-5')	
6		0				CL		Brown/mottled gray silty CLAY, trace coarse sand, medium stiff (5-7')	
7		0							
8	2	0	5/5'			CL		Brown/mottled gray CLAY, trace coarse sand, soft (7-10') Moist at 8.5'	
9		0							Soil sample collected (9-10')
10		0				CL		Brown/gray, silty CLAY, trace coarse sand and fine gravel, wet (10-10.5')	
11		0				CL		Brown silty CLAY, soft, wet (10.5-11.5')	
12		0							
13	3	0	5/5'			CL		Brown silty CLAY, trace coarse sand and fine gravel, very stiff (11.5-15')	
14		0							
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-03

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/21/2019	DLZ Project #	: 1942-6994-50
Location	: NE portion of Site	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0						PT		ORGANICS/TOPSOIL (0-0.5')	Soil composite sample collected (0-2')
0.5						SW		Black medium to coarse SAND, fine gravel (0.5-1')	
1	0					SW		Brown fine to medium SAND (1-1.5')	
1.5						SW		Black medium to coarse SAND, fine gravel (1.5-2.5')	
2	0		4/5'			SW		Brown medium to coarse SAND, fine gravel (2.5-3')	
2.5						SW		Gray medium to coarse SAND, fine gravel (3-3.5')	
3	0					SW		Brick debris and GRAVEL (3.5-4.5')	
3.5						AR			
4	0					AR			
4.5						CL		Brown/gray mottling silty CLAY, trace coarse sand, medium stiff (5-7')	
5	0					CL			
5.5						CL			
6	0					CL			
7	0					CL			
7.5						CL		Brown/gray mottling silty CLAY, trace fine gravel, very stiff (7-10')	
8	0		5/5'			CL		Moist at 10'	
9	0					CL			
9.5						CL			
10	0					CL			Soil sample collected (9-10')

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-04

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/21/2019	DLZ Project #	: 1942-6994-50
Location	: NE portion of Site	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0							PT	ORGANICS/TOPSOIL (0-0.5')	
1		0						Black/brown fine to coarse SAND and fine gravel (0.5-4.5')	
2		0							
3	1		4/5'				SW		
4		0							Soil sample collected (4-5')
5		0					CL	Brown/mottled gray silty CLAY, trace fine gravel, medium stiff (4.5-6.5')	
6		0							
7		0					CL	Brown/mottled gray silty CLAY, trace fine gravel, stiff (6.5-8.5')	
8	2		5/5'						Soil sample collected (8-9')
9		0					CL	Brown/gray silty CLAY, very stiff, wet (8.5-9')	
10		0					CL	Brown/mottled gray CLAY, trace fine gravel, very stiff (9-10')	

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-05

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : City of Detroit Building Authority Driller : Rhex
 Geologist : Kendall Gustafson Drill Method : Geoprobe
 Date : 11/21/2019 DLZ Project # : 1942-6994-50
 Location : Interior of building Ground Elevation :
 Drilling Co. : Fibertec TOC Elevation :

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Concrete (0-1.5')	Soil composite sample collected (0-2')
1		0				AR			
2		0.4				SW		Black medium to coarse SAND, fine gravel (1.5-2.5')	
3	1		3.5/5'			CL		Olive green silty CLAY, very stiff, petroleum odor (2.5-5')	Petroleum odor (2.5-7.5')
4		0.7				CL			
5		190				CL		Gray silty CLAY, trace coarse sand, soft, petroleum odor (5-7.5') Moist at 7'	Soil sample collected (6-7')
6		213.1				CL			
7	2	81	5/5'			CL			
8		95				CL		Brown CLAY, trace coarse sand, very stiff (7.5-10')	
9		101.4				CL			
10		3.8				CL		Brown CLAY, trace coarse gravel, very stiff (10-13')	
11		2.7				CL			
12	3	18.4	5/5'			CL			
13		20.9				CL		Brown silty CLAY, trace coarse sand, stiff (13-14')	
14		17.9				CL			
14						SP		Brown fine SAND, trace coarse sand, moist (14-15')	Soil sample collected (14-15')
15		16							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-06/TW-06

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : City of Detroit Building Authority Driller : Rhex
 Geologist : Kendall Gustafson Drill Method : Geoprobe
 Date : 11/21/2019 DLZ Project # : 1942-6994-50
 Location : Interior of building Ground Elevation :
 Drilling Co. : Fibertec TOC Elevation :

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		Concrete (0-0.5')	Water sample collected (0-5')
1		0				SW	Gray medium to coarse SAND and fine GRAVEL (0.5-2')		
2	1	0	3/5'			SW	Black silty SAND, fine GRAVEL and various fill material (2-4')		
3		9.7				SW		Soil sample collected (3-4')	
4		5.2				CL	Gray silty CLAY, stiff (4-5')	Moth ball odor (3-10')	
5		0				CL		Soil sample collected (4-5')	
6		0				CL	Brown/mottled gray silty CLAY, trace fine gravel Wet @ 5' (5-10')		
7	2	0	5/5'			CL			
8		0				CL			
9		0				CL			
10		0				CL			
End of Boring at 10' Below Ground Surface									
11									

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LOG OF BORING SB-07

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/21/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0					AR			CONCRETE (0-1')	
1	1				SW			Fill SAND (1-2') Refusal at 2'	Soil sample collected (1-2')
2									Refusal at 2'

End of Boring at 2' Below Ground Surface



LOG OF BORING SB-08

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/21/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0						AR		Concrete (0-0.5')	
1	153					CL		Dark gray, sandy CLAY, trace gravel, moist, odor (0.5-2')	
2	856		1/5'			CL		Dark gray silty CLAY, trace gravel (2-3')	
3	1018					CL		Olive gray silty CLAY, trace gravel (3-4.5')	
4	827					CL			
5	2765					AR		FILL sand, gravel, brick (4.5-5')	
6	5000					CL		Light brown/gray mottled CLAY, trace fine sand, stiff, strong odor (5-7.5')	Soil sample collected (5-6')
7	4914					CL			
8	5000 297		5/5'			CL		Light brown/gray mottled CLAY, trace fine sand, very stiff, strong odor (7.5-10')	
9	356 59.4 76.9 74.7					CL			
10	76.7					CL			Soil sample collected (9-10')
11	89.4								

End of Boring at 10' Below Ground Surface



LOG OF BORING SB-09

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	Soil composite sample collected (0-2')
1	253	143				SM		Dark gray silty SAND, trace gravel, discoloration, odor, moist (0.5-2')	Soil sample collected (1-2')
2	10.5	16.1	4/5'			SP		Olive gray medium SAND, moist (2-2.5')	
3	17.4	79.4				CL		Olive gray silty CLAY, medium stiff, moist (2.5-4')	
4	44.1	60.6				CL		Olive gray silty CLAY, stiff (4-5')	
5	35.6	20.7				CL		Light Brown silty CLAY, very stiff (5-7')	Soil sample collected (5-6')
6	97.3	67.8				CL			
7	25.8		5/5'			CL		Olive gray CLAY, stiff, moist (7-10')	
8	19.4					CL			
9									
10	19.6								
End of Boring at 10' Below Ground Surface									
11									

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LOG OF BORING SB-10

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	
1		1.2				SM		Dark gray silty SAND, trace fine gravel (0.5-2')	Soil sample collected (1-2')
2		1.4							
3	1	1.2	3/5'			SW		Yellow-orange sand, moist (2-3.5')	
4		0.8				CL		Olive gray/gray mottled silty CLAY, trace fine gravel, medium stiff, moist (3.5-5')	
5		0.2				CL		Light brown silty CLAY, trace gravel, stiff, moist (5-6')	
6		0				CL		Olive gray silty CLAY, trace gravel, very stiff (6-8')	
7		0				CL			
8	2	0	5/5'			CL		Gray CLAY, stiff, moist (8-10')	Soil sample collected (9-10')
9		0				CL			
10		0				CL			
11								End of Boring at 10' Below Ground Surface	

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LOG OF BORING SB-11

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0					AR			Concrete (0-0.5')	
1		388						Gray FILL SAND, trace gravel, odor, some black staining, concrete debris, medium dense (0.5-3')	Soil sample collected (1-2')
2		407				SW			
3	1	177.4	4/5'					Olive gray/brown mottling silty CLAY, medium stiff (3-4')	
4		264				CL		Olive gray/brown mottling silty CLAY, stiff (4-6.5')	
5		357							
6		163				CL		Olive gray/brown mottling silty CLAY, very stiff (6.5-9')	
7		43.1							
8	2	239	5/5'			CL			
9		63.8							
10		65.1				CL		Brown, sandy CLAY, trace fine gravel (9-11.5')	Soil sample collected (9-10')
11		76.4							
12		265				CL		Olive gray silty CLAY, medium stiff (11.5-14.5')	
13	3	13.4	5/5'						
14		27.6				CL			
15		24.3							
16		7.6				CL		Gray silty CLAY, stiff (14-5-15')	
17		5.1							
End of Boring at 15' Below Ground Surface									

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LOG OF BORING SB-12

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : City of Detroit Building Authority Driller : Rhex
 Geologist : Dan McNeely Drill Method : Geoprobe
 Date : 11/22/2019 DLZ Project # : 1942-6994-50
 Location : Interior of building Ground Elevation :
 Drilling Co. : Fibertec TOC Elevation :

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	
1		185				AR		FILL SAND and GRAVEL, discoloration, odor (0.5-2')	Soil sample collected (1-2')
2	1	12.6	4/5'					Brown silty CLAY, medium stiff (2-5')	
3		3.5				CL			
4		3.4				CL			
5		3.8						Brown/gray mottled CLAY, trace fine gravel, stiff (5-10.5')	
6		9.5				CL			
7	2	9.1	5/5'			CL			
8		6.4				CL			
9		6.2				CL			
10		7.9				CL			
11		1.2						Gray silty CLAY, trace fine gravel, medium stiff (10.5-15')	Soil sample collected (11-12')
12	3	0.7	5/5'			CL			
13		0.2				CL			
14		0							
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-13

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	Soil composite sample collected (0-2')
1		0				GW		FILL SAND and GRAVEL, reddish brown (0.5-1.5')	
2		0						Light brown fine to medium SAND, moist (1.5-4')	
3	1		4/5'			SW			
4		0				CL		Gray/brown mottled silty CLAY, medium stiff, moist (4-5')	Soil sample collected (4-5')
5		0				CL		Gray/brown mottled silty CLAY, stiff, moist (5-6')	
6		0						Gray/brown mottled silty CLAY, very stiff, moist (6-10')	Soil sample collected (6-7')
7		0							
8	2		5/5'			CL			
9		0							
10		0							
11								End of Boring at 10' Below Ground Surface	

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LOG OF BORING SB-14

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	
1		1.5				AR		Brown, FILL SAND and GRAVEL, moist (0.5-3')	Soil sample collected (1-2')
		3.7							
		7.9				AR		Olive gray clayey SAND and GRAVEL, moist, strong petroleum odor (3-5') Refusal at 5'	Soil sample collected (4-5')
2		25.6							
		14.9							
	1		4/5'						
3		90.3							
		104.8							
4		139.8				SC			
		70.8							
5									
6									

End of Boring at 5' Below Ground Surface

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LOG OF BORING SB-15/TW-15

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0								Concrete (0-0.5')	
1	103.2					SW		Dark gray clayey SAND and gravel, loose, moist (0.5-1')	Soil sample collected (1-2') Water sample collected (1-6')
2	233.2					SM	Black stained silty SAND, moist (1-2.5')		
3	80.1 40.6 12.3	4/5'				SC	Olive gray clayey SAND (2.5-4')		
4	100.9							Gray/brown mottled silty CLAY, very stiff (4-7')	Soil sample collected (4-5')
5	19.7					CL			
6	11.2							Brown silty CLAY, very stiff (7-8.5')	
7	9.9	5/5'				CL		Brown/gray mottled silty CLAY, very stiff (8.5-10')	
8	23.8							Brown silty CLAY, very stiff, wet (10-15')	
9	4.2					CL			
10	0								
11	0								
12	0	5/5'				CL			
13	0								
14	0								
15	0								
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-16

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0						AR		Concrete (0-0.5')	Soil composite sample collected (0-2')
1		0.2				AR		Olive gray clayey FILL SAND and GRAVEL, moist (0.5-1.5')	
2		0.2				SW		Brown fine to medium SAND (1.5-2.5')	
3	1		3.5/5'			CL		Brown/gray mottled silty CLAY, stiff, moist (2.5-5')	Soil sample collected (3-4')
4		0				CL			
5		0						Brown/gray mottled silty CLAY, trace fine gravel, moist, very stiff (5-10')	
6		0							
7		0							
8	2		5/5'			CL			Soil sample collected (8-9')
9		0							
10		0							

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-17

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/22/2019	DLZ Project #	: 1942-6994-50
Location	: Interior of building	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0						Brown sandy CLAY, soft, moist (0-2.5')	Soil composite sample collected (0-2')
1		0				CL			
2	1	0.1	4/5'					Black discolored sandy CLAY, soft, moist (2.5-3.5')	Soil sample collected (2-3')
3		0.4				CL			Soil sample collected (3-4')
4		0				CL		Brown sandy CLAY, medium stiff, moist (3.5-4')	
5		0				CL		Brown/gray mottled silty CLAY, stiff (4-5.5')	
6		0				CL		Brown/gray mottled silty CLAY, very stiff (5.5-7')	
7		0							
8	2	0	5/5'					Brown/gray mottled CLAY, trace gravel, stiff (7-10')	
9		0							
10		0				CL			

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-18

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: Northeast section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						PT		TOPSOIL (0-0.5')	
1		0.9				AR		Black/brown FILL SAND, gravel, glass (0.5-2')	Soil sample collected (1-2')
2		0.4				CL		Olive gray/dark gray silty CLAY, trace fine gravel (2-3')	
3	1		4/5'			CL		Dark gray silty CLAY, trace coarse sand, moist (3-4.5')	
4		0				CL		Olive gray silty CLAY, soft, wet (4.5-5.5')	Soil sample collected (4-5')
5		0				CL		Gray CLAY, trace fine gravel, medium soft, moist (5.5-7.5') Wet at 7'	
6		0				CL			
7		0				CL			
8	2		5/5'			CL		Brown silty CLAY, trace coarse sand, fine gravel, stiff (7.5-10)	
9		0				CL			
10		0				CL			
End of Boring at 10' Below Ground Surface									
11									

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LOG OF BORING SB-19

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: Eastern border	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		1.2						FILL SAND and GRAVEL (0-2')	
1		0.9				AR			
2		0.8						Brown silty SAND (2-3')	
3	1	0.4	3.5/5'			SM		Brown silty CLAY, trace fine gravel, medium stiff (3-5')	
4		0.5				CL			
5		0.1						Brown/gray mottled CLAY, trace fine gravel, very stiff (5-9.5')	
6		0.1							
7		0.1	5/5'			CL			
8	2	0							
9		0.1							Soil sample collected (9-10')
10		0						Brown/gray mottled CLAY, trace fine gravel, stiff, dry (9.5-15')	
11		0							
12		0	5/5'			CL			
13	3	0							
14		0							Soil sample collected (14-15")
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-20/TW-20

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: Eastern section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0				PT		TOPSOIL (0-0.5')	
1		0				AR		Black FILL SAND and GRAVEL (0.5-1.5')	Soil sample collected (1-2')
2		0				AR		Brown FILL SAND and GRAVEL (1.5-2.5')	Water sample collected (2-7')
3	1	0	3.5/5'			CL		Brown silty CLAY, soft, moist (2.5-3')	
4		0				CL		Olive gray silty CLAY, moist (3-4')	
5		0				CL		Brown/gray mottled CLAY, trace fine gravel, soft (4-5.5')	Soil sample collected (4-5")
6		0				CL		Brown/gray mottled CLAY, trace fine gravel, medium stiff (5.5-6.5')	
7		0						Brown/gray mottled CLAY, trace fine gravel, very stiff (6.5-10')	
8	2	0	5/5'			CL			
9		0							
10		0							

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-21

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						PT		TOPSOIL (0-0.5')	Soil composite sample collected (0-2')
1		17.4				SW		Black fine to medium SAND and fine gravel (0.5-2')	
2		1.8				CL		Brown/gray mottled silty CLAY, trace fine gravel, very stiff (2-3.5')	Soil sample collected (4-5')
3	1	0	4/5'			CL		Dark gray silty CLAY, trace organics and coarse sand, medium stiff (3.5-4')	
4		0				CL		Brown/gray mottled silty CLAY, trace coarse sand, medium stiff, moist (4.5-6')	
5		0				CL		Brown/gray mottled silty CLAY, trace coarse sand, very stiff, dry (6-10') Clayey Gravel seam, wet (7.5-8')	
6		0				CL			
7		0	5/5'			CL			Soil sample collected (14-15')
8	2	0				CL			
9		0				CL			
10		0				CL		Brown silty CLAY, trace fine gravel, stiff, dry (10-15')	
11		0				CL			
12		0	5/5'			CL			
13	3	0				CL			
14		0				CL			
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-22

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: South east section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0						Dark gray FILL SAND, GRAVEL, moist (0-2')	
1		0				AR			Soil sample collected (1-2')
2	1		3/5'					Light gray FILL SAND and GRAVEL, dry (2-3.5')	
3		0				AR			
4		0				CL		Olive gray silty CLAY, trace coarse sand, soft (3.5-5')	Soil sample collected (4-5')
5		0				ML		Gray sandy SILT, trace coarse sand and fine gravel, wet (5-6')	
6		0						Brown/gray mottled CLAY, soft (6-7.5')	
7		0				CL			
8	2		5/5'					Brown/gray mottled CLAY, trace fine gravel, stiff (7.5-10')	
9		0				CL			
10		0							

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-23

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: South east section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		ORGANICS, CONCRETE (0-1')	
1		0				AR		White FILL SAND and GRAVEL (1-2')	
2	1	4.3	3/5'			SP		Brown fine SAND, moist (2-4')	
3		15.3				SP			
4		2888				CL		Brown/gray mottled silty CLAY, trace fine gravel, medium stiff, moist (4-5.5')	Soil sample collected (4-5')
5		582				CL			
6		110				CL		Brown/gray mottled silty CLAY, trace fine gravel, very stiff, dry (5.5-10')	
7	2	100	5/5'			CL			Soil sample collected (7-8')
8		386				CL			
9		11.1				CL			
10		0.5				CL		Brown silty CLAY, trace fine gravel, very stiff (10-14')	
11		1.9				CL			
12	3	0.1	5/5'			CL			
13		0				CL			
14		0				CL		Brown silty CLAY, trace fine gravel, medium stiff, dry (14-15')	
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-24

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: South east section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		FILL OVERBURDEN (0-0.5')	
1		0				AR		GRAY FILL SAND and GRAVEL (0.5-1.5')	Soil sample collected (1-2')
2		0				SW		Brown fine to medium SAND, trace fine gravel, moist to wet (1.5-3.5')	
3	1		3/5'			SW			Soil sample collected (3-4')
4		1.7				SW		Dark gray fine to medium SAND, moist to wet (3.5-4')	
5		1.9				CL		Brown/gray mottled silty CLAY, medium stiff (4-5.5')	
6		0				CL		Brown/gray mottled silty CLAY, trace fine gravel, stiff (5.5-10')	
7		0				CL			
8	2		5/5'			CL			
9		0				CL			
10		0				CL			
End of Boring at 10' Below Ground Surface									
11									

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LOG OF BORING SB-25

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: South east section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0						Black/brown FILL sand and gravel, brick (0-1.5')	
1		0				AR			
2		0	3/5'					Dark gray sandy CLAY, trace fine gravel, moist (1.5-5') Wet at 4'	
3	1	0				CL			
4		0							
5		0						Olive green silty CLAY, soft, moist (5-7')	Soil sample collected (5-6')
6		0				CL			
7		0	5/5'					Brown silty CLAY, fine to coarse gravel, very stiff (7-10')	
8	2	0				CL			
9		0							
10		0						Brown/gray CLAY, trace fine gravel, very stiff (10-15')	
11		0							
12	3	0	5/5'			CL			
13		0							
14		0							Soil sample collected (14-15')
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-26

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: East central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0					X	AR		CONCRETE (0-0.5')	Soil composite sample collected (0-2')
1		93.6						Brown fine SAND (0.5-6.5')	
2		51.4							Soil sample collected (4-5')
3	1		3/5'						
4		78.7				SP			
5		79.0							Soil sample collected (7-8')
6		83.5							
7		296						Gray fine SAND, trace medium sand (6.5-10') Moist at 6.5' Wet at 8'	
8	2		2.5/5'						
9		341							
10		431.6				SP			
11		127.4							

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-27/TW-27

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0						ORGANICS/TOPSOIL (0-0.5')	
0.5								CONCRETE/GRAVEL (0.5-1.5')	
1		0						Brown fine SAND, trace fine gravel, moist (1.5-5')	
1.5	1		2.5/5'						Soil sample collected (3-4')
2		0							
3		0							
4		0							
5		0						Dark gray fine to medium SAND, wet (5-6.5')	
6		1							Water sample collected, Duplicate water sample collected (6-11')
7		1.9						Black fine to medium SAND, brown oil staining, wet (6.5-10')	
8	2		2.5/5'						
9		21.3							Soil sample collected (9-10')
10		10.2							
11	3		1/1'					Olive green fine SAND, wet, gravel below (10-11') Refusal at 11'	
12		2.4							

End of Boring at 11' Below Ground Surface

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LOG OF BORING SB-28

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/25/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0				AR		ORGANICS/GRAVEL (0-0.5')	
1		0				AR		CONCRETE/GRAVEL (0.5-1.5')	
2		0				SM		Brown silty SAND, trace fine gravel, moist (1.5-2.5')	
3	1	0	3/5'					Brown fine SAND, trace coarse sand (2.5-6') Moist at 2.5' Wet at 5'	
4		0				SP			Soil sample collected (4-5')
5		0							
6		0						Black fine SAND, trace fine gravel, brown oil staining, wet (6-10')	
7		0							
8	2	0	2.5/5'			SP			
9		0							
10		0						Olive gray fine SAND, wet, gravel below (10-13.5')	
11		0							
12	3	1.0	1/1'			SP			Soil sample collected (12-13')
13		1.1							
14	End of Boring at 13.5' Below Ground Surface								

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LOG OF BORING SB-29

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				PT		ORGANICS/TOPSOIL (0-1')	
1		0				AR		FILL GRAVEL (1-1.5')	
2		0	3/5'					Brown sandy SILT (1.5-5')	
3	1					ML			Soil sample collected (3-4')
4		0							
5		0						Brown/gray mottled CLAY, trace fine gravel, very stiff (5-10')	
6		0							
7		0	5/5'			CL			
8	2								
9		0							
10		0						Brown CLAY, trace fine gravel, stiff (10-15')	
11		0							
12		0	5/5'			CL			
13	3								
14		0							Soil sample collected (14-15')
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-30

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0				AR		CONCRETE (0-0.5')	
1		4.3				SM		Black silty SAND, slight oil staining (0.5-1.5)	Soil sample collected, Duplicate-02 soil sample collected (1-2')
2		16.4				SP		Green-gray fine SAND (1.5-2')	
3	1	15.9	4.5/5'			CL		Green-gray CLAY, medium stiff (2-5')	
4		14.8				CL			Soil sample collected (4-5')
5		5.4				CL		Brown/gray mottled CLAY, trace fine to coarse gravel, very stiff (5-7.5')	
6		5.9				CL			
7		0.1				CL			
8	2	5.1	5/5'			CL		Brown CLAY, trace coarse sand, very stiff (7.5-15')	
9		5.8				CL			
10		1.7				CL			
11		2.3				CL			
12		4.9				CL			
13	3	6.7	5/5'			CL			
14		8.8				CL			
15		8				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-31

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0				PT		ORGANICS/TOPSOIL (0-0.5')	
1		0				AR		CONCRETE/FILL GRAVEL (0.5-2')	
2	1	0	2.5/5'					Brown silty CLAY, trace coarse sand, soft (2-5')	
3		0				CL			
4		0				CL			Soil sample collected (4-5')
5		0				CL		Gray/mottled brown silty CLAY (5-7') Medium stiff (5-5.5') Soft (5.5-6') Stiff (6-7')	Soil sample collected (6-7')
6		0				CL			
7	2	0	5/5'			CL		Brown silty CLAY, trace fine gravel, stiff (7-10')	
8		0				CL			
9		0				CL			
10		0				CL		Brown/gray mottled silty CLAY, trace fine gravel, stiff (10-13.5')	
11		0				CL			
12	3	0	5/5'			CL			
13		0				CL			
14		0				CL		Gray silty CLAY, trace fine gravel, medium stiff (13.5-15')	
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-32

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		FILL SAND and GRAVEL (0-1')	Soil composite sample collected (0-2')
1		0				SP	Black fine SAND (1-1.5')		
2		0				SP	Brown fine SAND (1.5-2.5')		
3	1	0	5/5'			SM	Gray silty SAND (2.5-3')		
4		0				CL	Green-gray silty CLAY, trace coarse sand, soft (3-3.5')	Soil sample collected (3-4')	
5		0				CL	Brown/gray mottled CLAY, trace fine to coarse gravel, stiff (3.5-5')		
6		0					Brown silty CLAY, trace fine gravel, very stiff (5-10')		
7		0							
8	2	0	5/5'			CL			
9		0							
10		0							
11		0				CL	Brown/gray mottled silty CLAY, trace coarse sand to fine gravel, stiff (10-11.5')		
12		0				SM	Gray silty SAND (11.5-12')	Soil sample collected (12-13')	
13	3	0	5/5'				Gray silty CLAY, trace coarse sand to fine gravel, medium stiff (12-15')		
14		0							
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-33/TW-33

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		CONCRETE (0-1')	
1		3.1						Olive gray fine SAND, moist (1-4')	
2	1	4.5	3/5'			SP			Water sample collected (2-7')
3		1.8							Soil sample collected (3-4')
4		0.9				CL		Green-gray/black mottled silty CLAY, trace fine gravel, medium stiff (4-5.5')	
5		0				CL		Gray silty CLAY, trace coarse sand, medium stiff (5.5-6.5')	
6		0				CL			
7		0				CL		Brown silty CLAY, trace coarse sand to fine gravel, stiff (6.5-8.5')	Soil sample collected (7-8')
8	2	0	5/5'			CL			
9		0				CL		Gray silty CLAY, trace coarse sand to fine gravel, medium stiff, wet (8.5-10')	
10		0				CL			

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-34

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		CONCRETE (0-1')	
1		1.4				SP		Green-gray fine SAND (1-2')	Soil sample collected (1-2')
2	1	1.5	4.5/5'			CL		Gray/brown mottled sandy CLAY, trace fine gravel, medium stiff (2-3.5')	
3		1.3				CL		Brown/gray mottling silty CLAY, trace fine gravel, stiff (3.5-5')	
4		1.0				CL		Brown silty CLAY, trace coarse sand, very stiff (5-7.5')	
5		0				CL		Brown silty CLAY, trace fine gravel, very stiff (7.5-10')	
6		0				CL			
7	2	0	5/5'			CL			
8		1.0				CL			
9		1.3				CL			Soil sample collected (9-10')
10		0				CL		Gray silty CLAY, trace fine to coarse gravel, stiff, dry (10-15')	
11		0				CL			
12	3	0	5/5'			CL			
13		0				CL			
14		0				CL			
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-35

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0			X	AR		CONCRETE (0-0.5')	
1		0				SM		Green-gray silty SAND (0.5-1.5')	Soil sample collected (1-2')
2	1	0	3.5/5'			CL		Brown/gray mottled silty CLAY, trace fine gravel, soft (1.5-3.5')	
3		0							
4		0						Brown/gray mottling silty CLAY, trace fine gravel, stiff (3.5-10')	
5		0							
6		0							
7	2	0	5/5'			CL			
8		0							
9		0							
10		0							
11		0						Gray silty CLAY trace fine gravel, medium stiff, dry (10-15')	
12		0							
13	3	0	5/5'			CL			
14		0							Soil sample collected (14-15')
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-36

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Brown FILL SAND and GRAVEL (0-1.5')	
1	1	0.5				AR		FILL GRAVEL and ASPHALT (1.5-2.5')	
2		0.3				AR			
3	1	0.2	4/5'					Brown and olive gray fine SAND (2.5-4.5')	Soil sample collected (3-4')
4		54.5				SP			
5		380							
6		261.7							
7		544.6				CL		Brown/mottled gray CLAY, trace fine gravel, medium stiff (4.5-7')	
8		273.4							
9	2	245	5/5'			CL		Brown silty CLAY, trace coarse sand to fine gravel, stiff (7-10')	
10		237							
11		288							
12		164				CL			
13		181							
14		85							
15	3	224	5/5'			CL		Gray CLAY, trace coarse sand to fine gravel, dry (10-15')	Soil sample collected (14-15')
16		238							
		245							
		92							
		74							
End of Boring at 15' Below Ground Surface									

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LOG OF BORING SB-37

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : City of Detroit Building Authority Driller : Rhex
 Geologist : Kendall Gustafson Drill Method : Geoprobe
 Date : 11/26/2019 DLZ Project # : 1942-6994-50
 Location : North west corner Ground Elevation :
 Drilling Co. : Fibertec TOC Elevation :

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0			X	AR		CONCRETE (0-0.5')	Soil composite sample collected (0-2')
1		0						Brown fine SAND, moist (0.5-3')	
2		0	3.5/5'			SP			
3	1	0						Brown fine to medium SAND, trace fine gravel, wet (3-4.5')	
4		0				SW			
5		0				CL		Brown/gray mottled silty CLAY, trace fine gravel, soft (4.5-5.5')	Soil sample collected (5-6')
6		2.1						Brown silty CLAY, trace fine gravel, stiff (5.5-10')	
7		1.7	5/5'			CL			
8	2	1.1							
9		1.0							
10		5.2						Brown silty CLAY, trace fine gravel, stiff, dry (10-15')	Soil sample collected (10-11')
11		2.7							
12		2.3	5/5'			CL			
13	3	1.6							
14		1.3							
15									
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-38

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: South west corner	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0			AR			CONCRETE (0-0.5')	Soil composite sample collected (0-2')
1		0			SP		Brown fine SAND, trace fine gravel, moist (0.5-1.5')		
2		0			SP		Black fine SAND, trace fine gravel, moist (1.5-2.5')		
3	1		3/5'					Brown/gray mottled silty CLAY, trace coarse sand, medium stiff (2.5-10') Soft (5-5.5')	Soil sample collected (5-6')
4		0							
5		0							
6		0			CL				
7		0							
8	2		5/5'					Gray silty CLAY, trace fine gravel, stiff (10-12')	Soil sample collected (14-15')
9		0							
10		0			CL				
11		0						Brown silty CLAY, trace fine gravel, stiff, dry (12-15')	
12	3		5/5'						
13		0							
14		0			CL				
15		0							
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-39

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: West central section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
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0		0			AR			CONCRETE (0-0.5')	
1		0			SP			Black fine SAND, trace brick debris, moist (0.5-2')	
2	1	0	3/5'		SP			Green-gray fine SAND, moist (2-2.5')	Soil sample collected (2-3')
3		0			CL			Gray silty CLAY, medium stiff (2.5-3.5')	
4		0						Brown/gray mottled silty CLAY, stiff (3.5-10')	
5		0							
6		0							
7	2	0	5/5'		CL				Soil sample collected (6-7')
8		0							
9		0							
10		0							
11		0							
12	3	0	5/5'		CL			Brown CLAY, trace fine gravel, stiff, dry (10-15')	
13		0							
14		0							
15		0							

End of Boring at 15' Below Ground Surface

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LOG OF BORING SB-40

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Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Kendall Gustafson	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: North west section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0		0				AR		CONCRETE (0-0.5')	
1		0				SP		Black fine SAND, trace gravel debris (0.5-1.5')	Soil sample collected (1-2')
2		0				SW		Brown fine to medium SAND, moist (1.5-2.5')	
3	1		3/5'			CL		Brown/gray mottled silty CLAY, trace coarse sand to fine gravel (2.5-6.5') Medium stiff (2.5-4') Very stiff (4-5') Stiff (5-6.5')	
4		0				CL			
5		0				CL			
6		0				CL			
7	2		5/5'			CL		Brown silty CLAY, trace coarse sand, stiff (6.5-11')	
8		0				CL			
9		0				CL			Soil sample collected (9-10')
10		0				CL			
11		0				CL			
12	3		5/5'			CL		Gray silty CLAY, trace coarse sand, stiff, dry (11-15')	
13		0				CL			
14		0				CL			
15		0				CL			
End of Boring at 15' Below Ground Surface									
16									

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LOG OF BORING SB-41

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: South central border	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Brown SAND and GRAVEL, damp (0-1.5')	
1		0				GW			
2		0.1				AR		CONCRETE (1.5-2')	
3	1		3.5/5'			SP		Yellow-orange medium SAND, damp (2-3.5')	
4		0.3				GW		Brown/black SAND and GRAVEL, medium dense (3.5-4')	
5		0.4				LS		Crushed LIMESTONE (4-5')	Soil sample collected, Duplicate-04 soil sample collected (4-5')
6		1.5				CL		Black CLAY, medium stiff, odor (5-6')	
7		2.8				ML		Brown clayey SILT, trace sand (6-7')	Soil sample collected (6-7')
8	2	3.1	5/5'			CL		Brown silty CLAY, dry, very stiff (7-10')	
9		1.0				CL			
10		0.2							
End of Boring at 10' Below Ground Surface									
11									

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LOG OF BORING SB-42

(Page 1 of 1)

Former Coolidge Bus Terminal
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: City of Detroit Building Authority	Driller	: Rhex
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 11/26/2019	DLZ Project #	: 1942-6994-50
Location	: South east section	Ground Elevation	:
Drilling Co.	: Fibertec	TOC Elevation	:

Depth in Feet	Samples	PID (ppm)	REC (in)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
---------------	---------	-----------	----------	------------	---------	------	------------	-------------	---------

0						AR		CONCRETE (0-0.5')	
1		0.6				CL		Dark gray sandy CLAY, soft, moist (0.5-2')	Soil sample collected (1-2')
2		0.7							
2		0.7						Olive gray silty CLAY, soft, damp (2-3.5')	Soil sample collected (2-3')
2	1	0.4	3.5/5'			CL			
3		0.6							
4		0.4				CL		Olive gray/gray mottled silty CLAY, stiff (3.5-4.5')	
5		0				CL		Olive gray/gray mottled silty CLAY, trace fine gravel, stiff (4.5-6')	
6		0							
7		0							
7	2	0	5/5'			CL		Brown/gray silty CLAY, trace fine gravel, very stiff, damp (6-10')	
8		0							
9		0							
10		0							

End of Boring at 10' Below Ground Surface

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LOG OF BORING SB-44

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 1/31/2022	DLZ Project #	: 1942-6994-50
Location	: In Hartwell Avenue	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Crushed CONCRETE (0-4'), only 6" recovery.	
1		0							
2	1	0	6/48"			AR			
3		0							
4		0							
5		0				CL		Reddish/orangish brown/gray, mottled, sandy CLAY, medium stiff, damp, high plasticity, some fine angular gravel (4-5.5')	
6	2	0	48/48"			CL		Reddish/orangish brown/gray, mottled, sandy CLAY, stiff, damp, high plasticity, some fine angular gravel (5.5-8')	
7		0							
8		0							
9		0							
10	3	0	48/48"			CL		Brown and gray, mottled, silty CLAY, very stiff, damp, subangular to subrounded gravel, low plasticity (8-13.5')	
11		0							
12		0							
13		0							
14	End of Boring at 13.5' Below Ground Surface								



LOG OF BORING SB-46

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 1/31/2022	DLZ Project #	: 1942-6994-50
Location	: east of Hartwell St.	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								Brown, sandy CLAY, soft, moist, low plasticity (0-2')	
1						CL			
2	1		46/48"			CL		Brown and gray, sandy CLAY, medium stiff, low plasticity, some fine gravel, damp (2-4')	
3						CL			
4								Brown, orange/red/brown, silty CLAY, medium stiff, medium plasticity, damp (4-7')	
5						CL			
6	2		24/48"			CL			
7								Brown and tan, silty CLAY, stiff, low plasticity, damp (7-9')	
8						CL			
9								Brown and tan, silty SLAY, very stiff, damp, low plasticity	
10	3		48/48"			CL			
11									
12						CL			
13	4		2/24"						
14								Refusal at 14'	
15								End of Boring at 14' Below Ground Surface	



LOG OF BORING SB-47

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 1/31/2022	DLZ Project #	: 1942-6994-50
Location	: 14015 Ward, near garage	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0								TOPSOIL (0-2')	
1						PT			
2	1		22/48"			SM		Orange/tan, silty SAND, loose, damp (2-4')	
3									
4									
5						CL		Tan and gray, mottled, silty CLAY, medium stiff, damp, medium plasticity (4-6')	
6	2		46/48"			CL		Tan and gray, mottled, silty CLAY, stiff, damp, medium plasticity (6-7')	
7									
8									
9									
10	3		40/48"			CL		Tan and gray, mottled, silty CLAY, very stiff, damp, medium plasticity, some fine angular gravel (7-12')	
11									
12								Refusal at 12'	
13								End of Boring at 12' Below Ground Surface	



LOG OF BORING SB-50

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 1/31/2022	DLZ Project #	: 1942-6994-50
Location	: 14101 Ward, near porch	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5')	
1						CL		Brown, to dark brown, silty CLAY, medium stuff, medium plasticity, damp (0.5-2')	
2	1		32/48"			CL		Orangish brown, brown and gray, mottled silty CLAY, soft, medium plasticity (2-3')	
3						CL		Orangish brown, brown and gray, mottled, silty CLAY, medium stiff, low plasticity (3-4')	
4						CL		Orangish brown, brown and gray, mottled, silty CLAY, stiff, low plasticity (4-6')	
5						CL		Orangish brown, brown and gray, mottled, silty CLAY, very stiff, low plasticity (6-12')	
6	2		48/48"			CL		Orangish brown, brown and gray, mottled, silty CLAY, very stiff, low plasticity (6-12')	
7						CL			
8						CL			
9						CL			
10	3		42/48"			CL			
11						CL			
12						CL			
13						CL		End of Boring at 12' Below Ground Surface	



LOG OF BORING SB-59

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 2/1/2022	DLZ Project #	: 1942-6994-50
Location	:	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						SW		Brown SAND and gravel, loose, medium dense (0-1')	
1		0				AR		crushed concrete FILL (1-2')	
2	1	0	36/48"			SM		Brown to dark brown, silty SAND, dense (2-2.5')	
3		0				CL		Olive gray, silty CLAY, soft, high plasticity (2.5-4')	
4		5.8				CL		Tan/gray/brown, mottled, silty CLAY, medium stiff, damp, low plasticity (4-7.5')	
5		33.4				CL			
6	2	138.3	46/48"			CL			
7		80.8				CL			
8		33.1				CL		Tan/gray/brown, mottled, silty CLAY, stiff, damp, low plasticity (7.5-8.5')	
9		22.4				CL			
10	3	18.9	42/48"			CL		Tan/gray/brown, mottled, silty CLAY, very stiff, damp, low plasticity (8.5-12')	
11		15.3				CL			
12		6.4				CL			
13		5.3				CL			
		4.6				CL			
		2.9				CL			
		2.2				CL			
								End of Boring at 12' Below Ground Surface	



LOG OF BORING SB-70

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 2/1/2022	DLZ Project #	: 1942-6994-50
Location	: north of coach storage bldg.	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete FILL (0-1')	
1		0				SP		Tan SAND, wet (1-1.5')	
2	1	0	30/60"			CL		Dark gray to black, sandy CLAY, with gravel (1.5-2')	
3		0				CL		Dark gray, silty CLAY, medium stiff, damp, some gravel (2-3')	
4		0				CL		Dark gray, sandy CLAY, dense (3-3.5')	
5		0				CL		Brown and gray, mottled, silty CLAY, medium stiff, some gravel (3.5-5')	
6	2	0	60/60"			CL		Brown and gray, mottled, silty CLAY, stiff, some gravel (5-6')	
7		0							
8		0				CL			
9	3	0							
10		0							
11								End of Boring at 10' Below Ground Surface	



LOG OF BORING SB-75

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : Detroit Building Authority
 Geologist : Dan McNeely
 Date : 2/7/2022
 Location :
 Drilling Co. : Terra Probe

Driller : Steve Shenofsky
 Drill Method : Geoprobe
 DLZ Project # : 1942-6994-50
 Latitude :
 Longitude :

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5)	
0.5						GW		Tan, SAND and GRAVEL, loose (0.5-1')	
1		47.8						Dark gray to black, clayey SAND, loose, damp (1-3')	
2		98.3				SC		olive gray	
3	1	224	32/60"					Brown and gray CLAY, soft, some gravel, medium plasticity (3-4.5')	
4		261				CL			
5		96.4						Brown and gray CLAY, medium stiff, low plasticity, some gravel, (3-4.5')	
6		72.9							
7		48.5				CL			
8		41.8						Brown and gray CLAY, stiff, low plasticity, (4.5-5.5')	
9	2	34.4	54/60"						
10		26.5				CL			
11		19.8							
12		20.1							
13								End of Boring at 10' Below Ground Surface	



LOG OF BORING SB-76

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 2/7/2022	DLZ Project #	: 1942-6994-50
Location	: north maintenance area	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5)	
0.8						GW		Brown and tan, gravelly SAND, loose,damp (0.5-1')	
1								Brown SAND, loose, moist (1-3.5')	
1.7									
1.8						SP			
1.9	1		50/60"						
2.4									
3									
4						CL		Brown/greenish gray, silty CLAY, soft, with gravel, medium stiff (3.5-4')	
4.2						CL		Orangish brown and gray mottled silty CLAY, high plasticity (4-5')	
5								Sandy CLAY, stiff, with gravel (5-10')	
5.7									
6									
6.3									
7									
7.4	2		52/60"			CL			
8									
8.3									
9									
9.7									
10								End of Boring at 10' Below Ground Surface	
11									



LOG OF BORING SB-78

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client : Detroit Building Authority
 Geologist : Dan McNeely
 Date : 2/7/2022
 Location :
 Drilling Co. : Terra Probe

Driller : Steve Shenofsky
 Drill Method : Geoprobe
 DLZ Project # : 1942-6994-50
 Latitude :
 Longitude :

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-1)	
1						SP		Tan and brown SAND, loose, damp (1-1.5')	
2		315.4				GW		Light gray SAND and GRAVEL(1.5-2.5')	
3	1	31.8	46/60"			SM		Dark gray to black, silty SAND, some clay (2.5-3')	
4		17.4				CL		Olive/greenish gray silty CLAY, medium stiff (3-4')	
5		4.5				CL		Brown and gray, silty CLAY, soft (4-4.5')	
6						CL		Brown and gray silty, CLAY, stiff (4.5-5')	
7		4.8				CL		Brown and gray, silty CLAY, stiff, some gravel (5-10')	
8	2	51.3	54/60"			CL			
9		18.7							
10		19.3							
11		11.5						End of Boring at 10' Below Ground Surface	



LOG OF BORING SB-80

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 2/7/2022	DLZ Project #	: 1942-6994-50
Location	: southernmost main bldg.	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5)	
0.5						SP		Orange/brown/tan SAND (0.5-2.5')	
1		0.1							
2		0.2							
2.5	1		40/60"			GP		Fine to coarse GRAVEL, wet (2.5-3')	
3		0.2				CL		Tan/dark brown, sandy CLAY, stiff, moist (3-3.5')	Water sampled at 3' Temporary well screen set at 2-7'
3.5						CL		Brown/gray, sandy CLAY, stiff (3.5-5')	
4		0.3							
5		0.2				CL		Brown/gray, sandy CLAY, medium stiff (5-6')	
6		0.1							
6.5						CL		Brown/gray, sandy CLAY, stiff (6-10')	
7		0							
8	2		50/60"			CL			
9		0							
10		0							
11								End of Boring at 10' Below Ground Surface	



LOG OF BORING SB-81

(Page 1 of 1)

DDOT Coolidge
 Detroit, Michigan
 DLZ Project #1942-6994-50

Client	: Detroit Building Authority	Driller	: Steve Shenofsky
Geologist	: Dan McNeely	Drill Method	: Geoprobe
Date	: 2/7/2022	DLZ Project #	: 1942-6994-50
Location	:	Latitude	:
Drilling Co.	: Terra Probe	Longitude	:

Depth in Feet	Samples	PID (ppm)	REC (ft)	Blow Count	GRAPHIC	USCS	Samp. Type	DESCRIPTION	REMARKS
0						AR		Concrete (0-0.5)	
1		84.5				CL		Brown/light brown, sandy CLAY, with gravel, moist, low plasticity, medium stiff (0.5-2')	
2		62.2				CL		Gray/brown, sandy CLAY, odor, medium stiff (2-3')	
3	1	37.0	40/60"			CL		Gray/brown, sandy CLAY, medium stiff, with gravel (3-4')	
4		141.2				CL		Gray/brown, sandy CLAY, medium stiff, with brick (4-4.5')	
5		78				CL		Olive gray, sandy CLAY, medium stiff (4.5-5.5')	
6		15.6				CL		Brown/gray, silty CLAY, medium stiff (5.5-6')	
7		77.9				CL		Orange/brown, silty CLAY, stiff (6-10)	
8	2	12.8	54/60"			CL			
9		15.7							
10		10.6							
11		11.4							
12		10.2						End of Boring at 10' Below Ground Surface	

APPENDIX B
LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS



Monday, December 09, 2019

Fibertec Project Number: 93877
Project Identification: DDOT Coolidge /
Submittal Date: 11/22/2019

Mr. Dan McNeely
DLZ Michigan, Inc. - Lansing
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. McNeely,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Sharon Rakow at 3:13 PM, Dec 09, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-001

Order: 93877
Page: 2 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (0-1)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6300		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	270000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	970		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	16000		µg/kg	500	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
5. Copper	39000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	120000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	2600		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	81000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	64		µg/kg	50	8.7	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-001

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (0-1)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-001A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	160	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	82	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	82	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	82	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	86		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Holt, MI 48842
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-001

Order: 93877
Page: 4 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (0-1)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-001A** Matrix: **Soil/Solid**
Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	460		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	340		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	82	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	200		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	310	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	150		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	57	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	330		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	230		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	560		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	570		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	2200		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	6900		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-001

Order: 93877
Page: 5 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (0-1)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-001 **Matrix: Soil/Solid**
Description: SB-01 (0-1)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	6600		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	12000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	2300		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	4100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	470		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	6600		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	710		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	16000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	770		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	2900		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-001

Order: 93877
Page: 6 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (0-1)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-001** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-01 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	8100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	11000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U	Y1	µg/kg	940	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-002

Order: 93877
Page: 7 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (3-4)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-002** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-002** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	4700		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	51000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	250		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	9500		µg/kg	500	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
5. Copper	6600		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	8500		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	320		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	37000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-002** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-002** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Holt, MI 48842
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Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-002

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (3-4)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-002A **Matrix: Soil/Solid**
Description: SB-01 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	68	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	68	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	68	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-002

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (3-4)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-002A** Matrix: **Soil/Solid**
Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	68	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	260	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	48	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-002** Matrix: **Soil/Solid**
Description: **SB-01 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-002

Order: 93877
 Page: 10 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (3-4)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-002 **Matrix: Soil/Solid**
Description: SB-01 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-002

Order: 93877
Page: 11 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-01 (3-4)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-002 **Matrix: Soil/Solid**
Description: SB-01 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	810	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-003

Order: 93877
 Page: 12 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-01	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93877-003A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	13		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
2. Barium	100		µg/L	100	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
4. Chromium	U		µg/L	10	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
5. Copper	U		µg/L	4.0	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
7. Selenium	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
8. Silver	U		µg/L	0.20	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
9. Zinc	U		µg/L	50	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO

Mercury by CVAAS, Total Aliquot ID: **93877-003A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U	L+	µg/L	0.20	1.0	11/27/19	PM19K27B	11/27/19	M719K27B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-003** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.2	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-003B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-003

Order: 93877
 Page: 13 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-01	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93877-003B **Matrix: Ground Water**
Description: TW-01

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U	H	µg/L	2.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
3. Benzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
4. Bromobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
5. Bromochloromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
6. Bromodichloromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
7. Bromoform	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
8. Bromomethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
9. 2-Butanone	U	V-	µg/L	25	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
10. n-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
11. sec-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
12. tert-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
13. Carbon Disulfide	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
14. Carbon Tetrachloride	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
15. Chlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
16. Chloroethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
17. Chloroform	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
18. Chloromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
19. 2-Chlorotoluene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
21. Dibromochloromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
22. Dibromomethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
23. 1,2-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
24. 1,3-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
25. 1,4-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
26. Dichlorodifluoromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
27. 1,1-Dichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
28. 1,2-Dichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
29. 1,1-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
30. cis-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
31. trans-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
32. 1,2-Dichloropropane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
33. cis-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
34. trans-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
35. Ethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
36. Ethylene Dibromide	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
37. 2-Hexanone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
38. Isopropylbenzene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-003

Order: 93877
 Page: 14 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-01	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93877-003B **Matrix: Ground Water**
Description: TW-01

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
40. Methylene Chloride	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 41. 2-Methylnaphthalene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
42. MTBE	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
43. Naphthalene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
44. n-Propylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
45. Styrene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
48. Tetrachloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
49. Toluene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
50. 1,2,4-Trichlorobenzene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
51. 1,1,1-Trichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
52. 1,1,2-Trichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
53. Trichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
54. Trichlorofluoromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
55. 1,2,3-Trichloropropane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
57. 1,2,4-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
58. 1,3,5-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
59. Vinyl Chloride	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
60. m&p-Xylene	U	H	µg/L	2.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
61. o-Xylene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 62. Xylenes	U	H	µg/L	3.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93877-003 **Matrix: Ground Water**
Description: TW-01

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
3. Aniline	U		µg/L	4.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
4. Anthracene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-003

Order: 93877
 Page: 16 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-01	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-003** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
57. Pentachlorophenol	U		µg/L	23	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
58. Phenanthrene	U		µg/L	2.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
59. Phenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
60. Pyrene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
61. Pyridine	U		µg/L	5.7	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.7	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-004

Order: 93877
Page: 17 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (1-2)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-004** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-004** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8600		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	420000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	1800		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	16000		µg/kg	500	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
5. Copper	86000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	320000		µg/kg	1000	100	12/02/19	PT19L02D	12/03/19	T419L03C	VO
7. Selenium	890		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	130		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	250000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-004** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	140		µg/kg	50	8.7	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-004** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-004

Order: 93877
Page: 18 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (1-2)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-004A **Matrix: Soil/Solid**
Description: SB-02 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/kg	3100	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U	Y1	µg/kg	620	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U	Y1	µg/kg	620	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U	Y1	µg/kg	750	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U	Y1	µg/kg	620	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U	Y1	µg/kg	2500	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-004

Order: 93877
Page: 19 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (1-2)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-004A** Matrix: **Soil/Solid**
Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/kg	2500	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/kg	1200	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U	Y1	µg/kg	330	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/kg	1200	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U	Y1	µg/kg	220	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U	Y1	µg/kg	310	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U	Y1	µg/kg	470	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-004** Matrix: **Soil/Solid**
Description: **SB-02 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	920		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	4400		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	16000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-004

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (1-2)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-004 **Matrix: Soil/Solid**
Description: SB-02 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	15000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	25000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	4700		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	8900		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	210	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	480		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	15000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	1600		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	470		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4200	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	35000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	1100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	6100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	370		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-004

Order: 93877
 Page: 21 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (1-2)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-004 **Matrix: Soil/Solid**
Description: SB-02 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	4200	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	15000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	27000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-005

Order: 93877
Page: 22 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-005** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-005** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	48000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	130		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	14000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	12000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	7200		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	200		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	32000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-005** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-005** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-005

Order: 93877
 Page: 23 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-005A** Matrix: **Soil/Solid**
 Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	74	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	74	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	74	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-005

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-005A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	74	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	280	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-005** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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 T: (231) 775-8368

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 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-005

Order: 93877
Page: 25 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-005 **Matrix: Soil/Solid**
Description: SB-02 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	840	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-005

Order: 93877
Page: 26 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-02 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-005** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-02 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	840	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-006

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-006** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-03 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-006** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-03 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7800		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	49000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	96		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	13000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	6600		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	33000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-006** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-03 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-006** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-03 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-006

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-006A **Matrix: Soil/Solid**
Description: SB-03 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	75	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	75	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	75	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-006

Order: 93877
Page: 29 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-006A **Matrix: Soil/Solid**
Description: SB-03 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	75	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	280	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	52	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-006 **Matrix: Soil/Solid**
Description: SB-03 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-006

Order: 93877
Page: 30 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-006 **Matrix: Soil/Solid**
Description: SB-03 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-006

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (9-10)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-006 **Matrix: Soil/Solid**
Description: SB-03 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-007

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (4-5)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-007** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	19		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-007** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	36000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	230000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	300		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	28000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	98000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	74000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	2300		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	52000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-007** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	120		µg/kg	50	9.5	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-007** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Cadillac, MI 49601

T: (517) 699-0345
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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-007

Order: 93877
 Page: 33 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (4-5)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-007A** Matrix: **Soil/Solid**
 Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	160	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	80	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	80	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	80	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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 8660 S. Mackinaw Trail

Holt, MI 48842
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 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-007

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (4-5)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-007A** Matrix: **Soil/Solid**
 Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	80	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	300	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	56	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-007** Matrix: **Soil/Solid**
 Description: **SB-04 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	450		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	990		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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 11766 E. Grand River
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Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-007

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (4-5)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-007 **Matrix: Soil/Solid**
Description: SB-04 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	800		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	1100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	530		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	410		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	210	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	890		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	340		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4100	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	2000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	470		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	860		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-007

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (4-5)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-007 **Matrix: Soil/Solid**
Description: SB-04 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	450		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	4100	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	2200		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	1800		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U	Y1	µg/kg	1000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-008

Order: 93877
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 Date: 12/09/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-04 (8-9)** Chain of Custody: **183699**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/21/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **10:05**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-008** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	22		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-008** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	13000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	75000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	150		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	24000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	15000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	11000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	360		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	68000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-008** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.6	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-008** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-008

Order: 93877
Page: 38 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (8-9)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-008A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	160	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	78	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	78	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	78	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-008

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (8-9)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-008A** Matrix: **Soil/Solid**
 Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	78	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	300	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	55	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-008** Matrix: **Soil/Solid**
 Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-008

Order: 93877
Page: 40 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (8-9)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-008 **Matrix: Soil/Solid**
Description: SB-04 (8-9)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	850	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-008

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-04 (8-9)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-008** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-04 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	850	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-009

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (6-7)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-009** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-05 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-009** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-05 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	11000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	64000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	680		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	20000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	17000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	11000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	660		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	70000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-009** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-05 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-009** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-05 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-009

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (6-7)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-009A** Matrix: **Soil/Solid**
Description: **SB-05 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	390		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	430		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-009

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (6-7)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-009A **Matrix: Soil/Solid**
Description: SB-05 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	3200		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	480		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	120		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-009 **Matrix: Soil/Solid**
Description: SB-05 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-009

Order: 93877
Page: 45 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (6-7)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-009 **Matrix: Soil/Solid**
Description: SB-05 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	740		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-009

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (6-7)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-009 **Matrix: Soil/Solid**
Description: SB-05 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	810	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-010

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (14-15)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-010** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-010** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8700		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	21000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	69		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	9300		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	8800		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	5000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	29000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-010** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.6	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-010** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-010

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (14-15)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-010A **Matrix: Soil/Solid**
Description: SB-05 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-010

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (14-15)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-010A** Matrix: **Soil/Solid**
Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	63	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	44	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: **93877-010** Matrix: **Soil/Solid**
Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-010

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (14-15)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-010** Matrix: **Soil/Solid**
Method: EPA 3550C/EPA 8270E Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-010

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (14-15)	Chain of Custody: 183699
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-010** Matrix: **Soil/Solid**
Method: EPA 3550C/EPA 8270E Description: **SB-05 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-011

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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (3-4)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5800		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	99000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	190		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	8500		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	97000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	96000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	560		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	380000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	58		µg/kg	50	9.3	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
2. Aroclor-1221	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
3. Aroclor-1232	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
4. Aroclor-1242	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
5. Aroclor-1248	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
6. Aroclor-1254	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
7. Aroclor-1260	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
‡ 8. Aroclor-1262	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
‡ 9. Aroclor-1268	U	G+	µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-011

Order: 93877
 Page: 53 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (3-4)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-011A** Matrix: **Soil/Solid**
 Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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 11766 E. Grand River
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Holt, MI 48842
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 Cadillac, MI 49601

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-011

Order: 93877
Page: 54 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (3-4)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-011A** Matrix: **Soil/Solid**
Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	2700		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	13000		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	46	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	220000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
2. Acenaphthylene	1100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	340000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
‡ 5. Azobenzene	U	Y1	µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
6. Benzo(a)anthracene	320000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-011

Order: 93877
Page: 55 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (3-4)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-011 **Matrix: Soil/Solid**
Description: SB-06 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	320000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
8. Benzo(b)fluoranthene	340000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
9. Benzo(ghi)perylene	74000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
10. Benzo(k)fluoranthene	120000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
15. 4-Bromophenyl Phenylether	U	Y1	µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	9500	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
17. Di-n-butyl Phthalate	U	Y1	µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
‡ 18. Carbazole	180000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	260000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
24. Dibenzo(a,h)anthracene	30000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
25. Dibenzofuran	190000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	1000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3800	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	940000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
34. Fluorene	350000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
35. Hexachlorobenzene	U		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	110000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	9500	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
42. 2-Methylnaphthalene	100000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-011

Order: 93877
Page: 56 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (3-4)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-011** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-06 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	320000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	38000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
58. Phenanthrene	1100000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	650000		µg/kg	19000	500	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
61. Pyridine	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-012

Order: 93877
Page: 57 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (4-5)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-012** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-012** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8400		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	70000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	150		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	19000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	10000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	370		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	42000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-012** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.0	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-012** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/03/19	SF19L03A	RDK

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-012

Order: 93877
Page: 58 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (4-5)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-012A **Matrix: Soil/Solid**
Description: SB-06 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-012

Order: 93877
Page: 59 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (4-5)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-012A** Matrix: **Soil/Solid**
Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	2000		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	16000		µg/kg	330	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	72	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-012** Matrix: **Soil/Solid**
Description: **SB-06 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	29000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	44000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	51000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP

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Cadillac, MI 49601

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F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-012

Order: 93877
Page: 60 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (4-5)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-012 **Matrix: Soil/Solid**
Description: SB-06 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	40000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
8. Benzo(b)fluoranthene	54000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
9. Benzo(ghi)perylene	9100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	20000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	200	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	18000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	41000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
24. Dibenzo(a,h)anthracene	3500		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	23000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	160000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
34. Fluorene	37000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	13000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	11000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-012

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-06 (4-5)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-012 **Matrix: Soil/Solid**
Description: SB-06 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	46000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	4000	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	180000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	110000		µg/kg	2000	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
61. Pyridine	U	Y1	µg/kg	990	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-013

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-06	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 13:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93877-013A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
2. Barium	110		µg/L	100	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
4. Chromium	U		µg/L	10	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
5. Copper	4.8		µg/L	4.0	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
7. Selenium	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
8. Silver	U		µg/L	0.20	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
9. Zinc	U		µg/L	50	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO

Mercury by CVAAS, Total Aliquot ID: **93877-013A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U	L+	µg/L	0.20	1.0	11/27/19	PM19K27B	11/27/19	M719K27B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-013** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-013B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-013

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-06	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 13:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-013B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U	H	µg/L	2.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
3. Benzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
4. Bromobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
5. Bromochloromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
6. Bromodichloromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
7. Bromoform	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
8. Bromomethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
9. 2-Butanone	U	V-	µg/L	25	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
10. n-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
11. sec-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
12. tert-Butylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
13. Carbon Disulfide	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
14. Carbon Tetrachloride	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
15. Chlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
16. Chloroethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
17. Chloroform	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
18. Chloromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
19. 2-Chlorotoluene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
21. Dibromochloromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
22. Dibromomethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
23. 1,2-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
24. 1,3-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
25. 1,4-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
26. Dichlorodifluoromethane	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
27. 1,1-Dichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
28. 1,2-Dichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
29. 1,1-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
30. cis-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
31. trans-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
32. 1,2-Dichloropropane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
33. cis-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
34. trans-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
35. Ethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
36. Ethylene Dibromide	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
37. 2-Hexanone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
38. Isopropylbenzene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-013

Order: 93877
 Page: 64 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-06	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 13:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-013B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U	H	µg/L	50	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
40. Methylene Chloride	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 41. 2-Methylnaphthalene	85	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
42. MTBE	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
43. Naphthalene	940	H	µg/L	10	20	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
44. n-Propylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
45. Styrene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
48. Tetrachloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
49. Toluene	1.5	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
50. 1,2,4-Trichlorobenzene	U	H	µg/L	5.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
51. 1,1,1-Trichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
52. 1,1,2-Trichloroethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
53. Trichloroethene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
54. Trichlorofluoromethane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
55. 1,2,3-Trichloropropane	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
57. 1,2,4-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
58. 1,3,5-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
59. Vinyl Chloride	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
60. m&p-Xylene	U	H	µg/L	2.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
61. o-Xylene	U	H	µg/L	1.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 62. Xylenes	U	H	µg/L	3.0	1.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-013** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-06**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	83		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
2. Acenaphthylene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
3. Aniline	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
4. Anthracene	150		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 5. Azobenzene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
6. Benzo(a)anthracene	100		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
7. Benzo(a)pyrene	81		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-013

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-06	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 13:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93877-013 **Matrix: Ground Water**
Description: TW-06

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	110		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
9. Benzo(ghi)perylene	55		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
10. Benzo(k)fluoranthene	40		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
11. Benzyl Alcohol	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 18. Carbazole	140		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
21. 2-Chlorophenol	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
23. Chrysene	96		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
24. Dibenzo(a,h)anthracene	14		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
25. Dibenzofuran	70		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
27. Diethyl Phthalate	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
28. 2,4-Dimethylphenol	34		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
29. Dimethyl Phthalate	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
30. 2,4-Dinitrophenol	U		µg/L	110	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
33. Fluoranthene	280		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
34. Fluorene	110		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
35. Hexachlorobenzene	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
36. Hexachlorobutadiene	U		µg/L	27	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	27	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
38. Hexachloroethane	U	L-	µg/L	27	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
39. Indeno(1,2,3-cd)pyrene	59		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
40. Isophorone	U		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	27	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
42. 2-Methylnaphthalene	58		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
43. 2-Methylphenol	9.0		µg/L	5.4	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 44. 3&4-Methylphenol	16		µg/L	10	5.4	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-014

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-07 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-014** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-07 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-014** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-07 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	3100		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	20000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	75		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	6100		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	5400		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	11000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	23000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-014** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-07 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-014** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-07 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-014

Order: 93877
 Page: 68 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-07 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-014A** Matrix: **Soil/Solid**
 Description: **SB-07 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	62	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	62	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	62	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-014

Order: 93877
Page: 69 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-07 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-014A **Matrix: Soil/Solid**
Description: SB-07 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	11000		µg/kg	4900	20	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	64000		µg/kg	1200	20	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	62	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	110		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	43	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-014 **Matrix: Soil/Solid**
Description: SB-07 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	7000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	430		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	19000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	26000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-014

Order: 93877
Page: 70 of 189
Date: 12/09/14

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-07 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-014 **Matrix: Soil/Solid**
Description: SB-07 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	24000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	30000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
9. Benzo(ghi)perylene	7000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	13000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	8700		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	25000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	2300		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	14000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	84000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
34. Fluorene	19000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	9500		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	8200		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-014

Order: 93877
 Page: 71 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-07 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-014 **Matrix: Soil/Solid**
Description: SB-07 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	38000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	99000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	58000		µg/kg	1900	50	11/27/19	PS19K27B	12/02/19	S519L01A	GJP
61. Pyridine	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-015

Order: 93877
 Page: 72 of 189
 Date: 12/09/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-08 (5-6)** Chain of Custody: **183698**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/21/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **16:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7500		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	52000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	800		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	14000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	12000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	40000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-015

Order: 93877
Page: 73 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-015A** Matrix: **Soil/Solid**
Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	2600	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 2. Acrylonitrile	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
3. Benzene	460		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
4. Bromobenzene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
5. Bromochloromethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
6. Bromodichloromethane	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
7. Bromoform	U		µg/kg	510	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
8. Bromomethane	U		µg/kg	510	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
9. 2-Butanone	U		µg/kg	750	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
10. n-Butylbenzene	550	E1	µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
11. sec-Butylbenzene	250	E1	µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
12. tert-Butylbenzene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
13. Carbon Disulfide	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
14. Carbon Tetrachloride	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
15. Chlorobenzene	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
16. Chloroethane	U		µg/kg	510	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
17. Chloroform	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
18. Chloromethane	U		µg/kg	250	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
19. 2-Chlorotoluene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
21. Dibromochloromethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
22. Dibromomethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
26. Dichlorodifluoromethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
27. 1,1-Dichloroethane	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
28. 1,2-Dichloroethane	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
29. 1,1-Dichloroethene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
32. 1,2-Dichloropropane	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
35. Ethylbenzene	780		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
36. Ethylene Dibromide	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
37. 2-Hexanone	U		µg/kg	2500	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-015

Order: 93877
Page: 74 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-015A **Matrix: Soil/Solid**
Description: SB-08 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	380		µg/kg	250	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
40. Methylene Chloride	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 41. 2-Methylnaphthalene	1600		µg/kg	1000	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
42. MTBE	U		µg/kg	250	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
43. Naphthalene	3500		µg/kg	330	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
44. n-Propylbenzene	440		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
45. Styrene	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
48. Tetrachloroethene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
49. Toluene	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	980	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
53. Trichloroethene	U		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
54. Trichlorofluoromethane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 56. 1,2,3-Trimethylbenzene	2600		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
57. 1,2,4-Trimethylbenzene	560		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
58. 1,3,5-Trimethylbenzene	1200		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
59. Vinyl Chloride	U		µg/kg	180	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
60. m&p-Xylene	1800		µg/kg	260	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
61. o-Xylene	350		µg/kg	130	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 62. Xylenes	2100		µg/kg	390	4.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-015 **Matrix: Soil/Solid**
Description: SB-08 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	380		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	830		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	590		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-015

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	410		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	380		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	440		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	640		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	2700		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	800		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	1300		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-015

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-015** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-08 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	3200		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	4200		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	2000		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-016

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-08	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93877-016A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	22		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
2. Barium	240		µg/L	100	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
4. Chromium	U		µg/L	10	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
5. Copper	U		µg/L	4.0	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
6. Lead	38		µg/L	3.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
7. Selenium	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
8. Silver	U		µg/L	0.20	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
9. Zinc	U		µg/L	50	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO

Mercury by CVAAS, Total Aliquot ID: **93877-016A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U	L+	µg/L	0.20	1.0	11/27/19	PM19K27B	11/27/19	M719K27B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-016** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-016B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	H	µg/L	50	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-016

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-08	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-016B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U	H	µg/L	50	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
40. Methylene Chloride	U	H	µg/L	5.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 41. 2-Methylnaphthalene	28	H	µg/L	5.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
42. MTBE	U	H	µg/L	5.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
43. Naphthalene	320	H	µg/L	5.0	5.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
44. n-Propylbenzene	4.4	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
45. Styrene	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
48. Tetrachloroethene	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
49. Toluene	5.0	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
50. 1,2,4-Trichlorobenzene	U	H	µg/L	5.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
51. 1,1,1-Trichloroethane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
52. 1,1,2-Trichloroethane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
53. Trichloroethene	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
54. Trichlorofluoromethane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
55. 1,2,3-Trichloropropane	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	14	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
57. 1,2,4-Trimethylbenzene	2.1	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
58. 1,3,5-Trimethylbenzene	3.4	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
59. Vinyl Chloride	U	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
60. m&p-Xylene	23	H	µg/L	2.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
61. o-Xylene	7.7	H	µg/L	1.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ
‡ 62. Xylenes	31	H	µg/L	3.0	5.0	12/05/19	VP19L05A	12/06/19	VP19L05A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-016** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8270E** Description: **TW-08**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
3. Aniline	U		µg/L	4.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
4. Anthracene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
6. Benzo(a)anthracene	1.2		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-016

Order: 93877
Page: 80 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-08	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93877-016 **Matrix: Ground Water**
Description: TW-08

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	1.3		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
23. Chrysene	U		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
25. Dibenzofuran	5.9		µg/L	4.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
27. Diethyl Phthalate	40		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
33. Fluoranthene	3.6		µg/L	1.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
34. Fluorene	6.3		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
40. Isophorone	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
42. 2-Methylnaphthalene	140		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-016

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-08	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93877-016 **Matrix: Ground Water**
Description: TW-08

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	290		µg/L	20	20	11/27/19	PS19K27E	12/03/19	S519L03A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
58. Phenanthrene	7.9		µg/L	2.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
59. Phenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
60. Pyrene	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
61. Pyridine	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-017

Order: 93877
 Page: 82 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-017** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-017** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5400		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	50000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	340		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	8100		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	22000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	69000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	390		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	110		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	60000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-017** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.5	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-017** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-017

Order: 93877
 Page: 83 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-017A** Matrix: **Soil/Solid**
 Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	2600	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	520	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	520	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	900		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	820		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	520	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-017

Order: 93877
 Page: 84 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-017A** Matrix: **Soil/Solid**
 Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	3300		µg/kg	1000	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	2300		µg/kg	330	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	700		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	980	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	170		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	370		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	180	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	260	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	130	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	390	4.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-017** Matrix: **Soil/Solid**
 Description: **SB-09 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	490		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	1000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	1800		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-017

Order: 93877
Page: 85 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-017 **Matrix: Soil/Solid**
Description: SB-09 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	1700		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	2300		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	910		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	910		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	400		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	1600		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	470		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3800	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	3800		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	720		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	1000		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	730		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-017

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (1-2)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-017 **Matrix: Soil/Solid**
Description: SB-09 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	880		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	3800	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	3500		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	3100		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U	Y1	µg/kg	950	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-018

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-018** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-018** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6500		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	44000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	150		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	17000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	15000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	8000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	250		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	42000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-018** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.9	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-018** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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11766 E. Grand River
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Holt, MI 48842
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Cadillac, MI 49601

T: (517) 699-0345
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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-018

Order: 93877
Page: 88 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-018A** Matrix: **Soil/Solid**
Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	67	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	67	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-018

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-018A** Matrix: **Soil/Solid**
 Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	67	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	260	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	47	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-018** Matrix: **Soil/Solid**
 Description: **SB-09 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-018

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-018 **Matrix: Soil/Solid**
Description: SB-09 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
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F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-018

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (5-6)	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-018 **Matrix: Soil/Solid**
Description: SB-09 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/27/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-019

Order: 93877
Page: 92 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-09	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93877-019 **Matrix: Ground Water**
Description: TW-09

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	H	µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 2. Acrylonitrile	U	H	µg/L	2.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
3. Benzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
4. Bromobenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
5. Bromochloromethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
6. Bromodichloromethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
7. Bromoform	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
8. Bromomethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
9. 2-Butanone	U	H	µg/L	25	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
10. n-Butylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
11. sec-Butylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
12. tert-Butylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
13. Carbon Disulfide	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
14. Carbon Tetrachloride	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
15. Chlorobenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
16. Chloroethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
17. Chloroform	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
18. Chloromethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
19. 2-Chlorotoluene	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
21. Dibromochloromethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
22. Dibromomethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
23. 1,2-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
24. 1,3-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
25. 1,4-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
26. Dichlorodifluoromethane	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
27. 1,1-Dichloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
28. 1,2-Dichloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
29. 1,1-Dichloroethene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
30. cis-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
31. trans-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
32. 1,2-Dichloropropane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
33. cis-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
34. trans-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
35. Ethylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
36. Ethylene Dibromide	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
37. 2-Hexanone	U	H	µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-019

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-09	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 08:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-019** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-09**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
39. 4-Methyl-2-pentanone	U	H	µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
40. Methylene Chloride	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 41. 2-Methylnaphthalene	13	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
42. MTBE	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
43. Naphthalene	7.7	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
44. n-Propylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
45. Styrene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
46. 1,1,1,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
47. 1,1,2,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
48. Tetrachloroethene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
49. Toluene	2.0	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
50. 1,2,4-Trichlorobenzene	U	H	µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
51. 1,1,1-Trichloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
52. 1,1,2-Trichloroethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
53. Trichloroethene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
54. Trichlorofluoromethane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
55. 1,2,3-Trichloropropane	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 56. 1,2,3-Trimethylbenzene	4.6	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
57. 1,2,4-Trimethylbenzene	1.1	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
58. 1,3,5-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
59. Vinyl Chloride	U	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
60. m&p-Xylene	U	H	µg/L	2.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
61. o-Xylene	1.4	H	µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 62. Xylenes	U	H	µg/L	3.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-020

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-02	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-020** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-020** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	10000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	44000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	110		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	16000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	13000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	6300		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	40000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-020** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-020** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-020

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-02	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-020A **Matrix: Soil/Solid**
Description: DUP-02

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-020

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-02	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-020A** Matrix: **Soil/Solid**
Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	65	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	46	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-020** Matrix: **Soil/Solid**
Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-020

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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-02	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-020** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **DUP-02**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-020

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-02	Chain of Custody: 183698
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-020 **Matrix: Soil/Solid**
Description: DUP-02

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U		µg/kg	830	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-021

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-021** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-021** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	3100		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	19000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	180		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	6000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	12000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	26000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	230		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	24000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-021** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.3	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-021** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	12/02/19	SF19L02A	RDK

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-021

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-021A **Matrix: Soil/Solid**
Description: SB-10 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	150		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	71	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	71	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	71	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	71		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-021

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-021A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	71	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	150		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	110		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	320		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	490		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	110		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	600		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-021** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
3. Aniline	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
4. Anthracene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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T: (231) 775-8368

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-021

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-021 **Matrix: Soil/Solid**
Description: SB-10 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
23. Chrysene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
25. Dibenzofuran	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
33. Fluoranthene	350		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
34. Fluorene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
40. Isophorone	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-021

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-021** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-10 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
45. Naphthalene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	3700	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
58. Phenanthrene	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
59. Phenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
60. Pyrene	340		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
61. Pyridine	U	Y1	µg/kg	930	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	11/27/19	PS19K27B	11/28/19	S519K27A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-022

Order: 93877
 Page: 104 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-022** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-022** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	7000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	35000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	140		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	14000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	6700		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	38000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-022** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.3	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-022** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-022

Order: 93877
Page: 105 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-022A** Matrix: **Soil/Solid**
Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	61	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	61	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	61	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-022

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-022A **Matrix: Soil/Solid**
Description: SB-10 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
45. Styrene	U		µg/kg	61	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
59. Vinyl Chloride	U		µg/kg	43	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27A	11/27/19	VI19K27A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-022 **Matrix: Soil/Solid**
Description: SB-10 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-022

Order: 93877
 Page: 107 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-022 **Matrix: Soil/Solid**
Description: SB-10 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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 T: (231) 775-8368

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 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-022

Order: 93877
Page: 108 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-10 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-022** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-10 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-023

Order: 93877
 Page: 109 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-023** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-023** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	2800		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	30000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	1100		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	13000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	13000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	99000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	240		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	39000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-023** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.0	12/02/19	PM19L02A	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-023** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	11/27/19	PS19K27D	11/27/19	SF19K27B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-023

Order: 93877
Page: 110 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-023A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	6800	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	6800	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	6300		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	3300	E1	µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	6800	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	820		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	6800	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-023

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-023A **Matrix: Soil/Solid**
Description: SB-11 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	740		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	6800	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	37000		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	12000		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	1900		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	2700	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	5700		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	1400	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	1200		µg/kg	680	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	2000	20	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-023 **Matrix: Soil/Solid**
Description: SB-11 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-023

Order: 93877
Page: 112 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-023** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-11 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
25. Dibenzofuran	470		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
33. Fluoranthene	420		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
34. Fluorene	680		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	11000		µg/kg	770	20	12/02/19	PS19L02H	12/04/19	S519L04A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-023

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-023 **Matrix: Soil/Solid**
Description: SB-11 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
45. Naphthalene	4200		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
58. Phenanthrene	450		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
60. Pyrene	420		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-024

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-024** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-024** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	12000		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
2. Barium	52000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
3. Cadmium	240		µg/kg	50	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
4. Chromium	16000		µg/kg	500	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
5. Copper	15000		µg/kg	1000	20	12/02/19	PT19L02D	12/03/19	T419L03C	VO
6. Lead	10000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
7. Selenium	290		µg/kg	200	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02D	12/02/19	T419L02B	VO
9. Zinc	51000		µg/kg	1000	20	12/02/19	PT19L02D	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-024** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.5	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-024** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-024

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-024A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-024

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-024A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	65	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-024** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-11 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-024

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-024 **Matrix: Soil/Solid**
Description: SB-11 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-024

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-11 (9-10)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-024 **Matrix: Soil/Solid**
Description: SB-11 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-025

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (0-1)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-025** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-025** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5300		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	34000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	210		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	10000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	22000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	34000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	250		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	38000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-025** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	54		µg/kg	50	9.1	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-025** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-025

Order: 93877
Page: 120 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (0-1)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-025A **Matrix: Soil/Solid**
Description: SB-12 (0-1)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	3000	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	3000	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	1200		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	760	E1	µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	3000	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	3000	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-025

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (0-1)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-025A** Matrix: **Soil/Solid**
 Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	3000	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	10000		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	2700		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	1200	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	2300		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	2600		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	610	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	300	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	910	10	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-025** Matrix: **Soil/Solid**
 Description: **SB-12 (0-1)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-025

Order: 93877
Page: 122 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (0-1)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-025 **Matrix: Soil/Solid**
Description: SB-12 (0-1)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-025

Order: 93877
 Page: 123 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (0-1)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-025 **Matrix: Soil/Solid**
Description: SB-12 (0-1)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/04/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-026

Order: 93877
 Page: 124 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (11-12)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6500		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	37000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	94		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	6500		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	39000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.3	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-026

Order: 93877
 Page: 125 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (11-12)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-026A** Matrix: **Soil/Solid**
 Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-026

Order: 93877
 Page: 126 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (11-12)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-026A** Matrix: **Soil/Solid**
 Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	64	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-026

Order: 93877
 Page: 127 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (11-12)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-026 **Matrix: Soil/Solid**
Description: SB-12 (11-12)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-026

Order: 93877
 Page: 128 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-12 (11-12)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-026** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-12 (11-12)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-027

Order: 93877
 Page: 129 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-027** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-027** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8700		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	66000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	U		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	19000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	17000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	9500		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	42000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-027** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.4	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-027** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-027

Order: 93877
Page: 130 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-027A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-027

Order: 93877
Page: 131 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-027A** Matrix: **Soil/Solid**
Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-027** Matrix: **Soil/Solid**
Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-027

Order: 93877
Page: 132 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-027 **Matrix: Soil/Solid**
Description: SB-13 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-027

Order: 93877
Page: 133 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-027** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-13 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-028

Order: 93877
 Page: 134 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (6-7)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-028** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-028** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	7800		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	53000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	140		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	15000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	7300		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	44000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-028** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-028** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Holt, MI 48842
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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-028

Order: 93877
Page: 135 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (6-7)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-028A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-028

Order: 93877
 Page: 136 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (6-7)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-028A** Matrix: **Soil/Solid**
 Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-028** Matrix: **Soil/Solid**
 Description: **SB-13 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-028

Order: 93877
Page: 137 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (6-7)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-028 **Matrix: Soil/Solid**
Description: SB-13 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-028

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (6-7)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-028 **Matrix: Soil/Solid**
Description: SB-13 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-029

Order: 93877
 Page: 139 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-029** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-029** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6800		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	15000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	1500		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	6700		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	11000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	9200		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	42000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-029** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.6	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-029** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-029

Order: 93877
Page: 140 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-029A **Matrix: Soil/Solid**
Description: SB-14 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-029

Order: 93877
Page: 141 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-029A** Matrix: **Soil/Solid**
Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-029** Matrix: **Soil/Solid**
Description: **SB-14 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-029

Order: 93877
Page: 142 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-029 **Matrix: Soil/Solid**
Description: SB-14 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-029

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (1-2)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-029 **Matrix: Soil/Solid**
Description: SB-14 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-030

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-030** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-030** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5900		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	15000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	130		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	7100		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	11000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	6600		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	31000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-030** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.6	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-030** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Holt, MI 48842
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 Cadillac, MI 49601

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 T: (231) 775-8368

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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-030

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-030A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	880	E1	µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	340	E1	µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	61		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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11766 E. Grand River
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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-030

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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-030A** Matrix: **Soil/Solid**
 Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	5500		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	1800		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	190		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	60	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	1200		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	2000		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	410		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	150		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	130		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	280		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-030** Matrix: **Soil/Solid**
 Description: **SB-14 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-030

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-030 **Matrix: Soil/Solid**
Description: SB-14 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	520		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	2800		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-030

Order: 93877
Page: 148 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-14 (4-5)	Chain of Custody: 183687
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-030 **Matrix: Soil/Solid**
Description: SB-14 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
45. Naphthalene	960		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	400		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-031

Order: 93877
 Page: 149 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (1-2)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-031** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-031** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	7600		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	23000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	230		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	8500		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	6400		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	200		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	29000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-031** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.0	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-031** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-031

Order: 93877
Page: 150 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (1-2)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-031A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	850	E1	µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	390	E1	µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-031

Order: 93877
Page: 151 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (1-2)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-031A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	11000		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	3800		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	190		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	67	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	1800		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	2200		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	510		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	81		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-031** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-15 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-031

Order: 93877
Page: 152 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (1-2)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-031 **Matrix: Soil/Solid**
Description: SB-15 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
34. Fluorene	470		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	4200		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-031

Order: 93877
 Page: 153 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (1-2)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-031 **Matrix: Soil/Solid**
Description: SB-15 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
45. Naphthalene	1300		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-032

Order: 93877
 Page: 154 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (4-5)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-032** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-032** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	11000		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	46000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	1100		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	15000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	8000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	280		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	53000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-032** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.6	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-032** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-032

Order: 93877
 Page: 155 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (4-5)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-032A** Matrix: **Soil/Solid**
 Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
3. Benzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
7. Bromoform	U		µg/kg	130	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-032

Order: 93877
 Page: 156 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (4-5)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-032A** Matrix: **Soil/Solid**
 Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
42. MTBE	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
45. Styrene	U		µg/kg	63	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
49. Toluene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
59. Vinyl Chloride	U		µg/kg	44	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-032** Matrix: **Soil/Solid**
 Description: **SB-15 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-032

Order: 93877
 Page: 157 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (4-5)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-032 **Matrix: Soil/Solid**
Description: SB-15 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-032

Order: 93877
 Page: 158 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-15 (4-5)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-032 **Matrix: Soil/Solid**
Description: SB-15 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-033

Order: 93877
Page: 159 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-15	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93877-033A** Matrix: **Ground Water**
Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
2. Barium	U		µg/L	100	10	12/02/19	PT19L02C	12/02/19	T419L02B	VO
3. Cadmium	U		µg/L	1.0	10	12/02/19	PT19L02C	12/02/19	T419L02B	VO
4. Chromium	U		µg/L	10	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
5. Copper	U		µg/L	4.0	10	12/02/19	PT19L02C	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/02/19	PT19L02C	12/02/19	T419L02B	VO
7. Selenium	U		µg/L	5.0	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO
8. Silver	U		µg/L	0.20	10	12/02/19	PT19L02C	12/02/19	T419L02B	VO
9. Zinc	U		µg/L	50	10	12/02/19	PT19L02C	12/02/19	T419L02A	VO

Mercury by CVAAS, Total Aliquot ID: **93877-033A** Matrix: **Ground Water**
Method: **EPA 7470A** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U	L+	µg/L	0.20	1.0	11/27/19	PM19K27B	11/27/19	M719K27B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-033** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8082A** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-033B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-033

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-15	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93877-033B **Matrix: Ground Water**
Description: TW-15

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
3. Benzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
4. Bromobenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
5. Bromochloromethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
6. Bromodichloromethane	1.1		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
7. Bromoform	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
8. Bromomethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
9. 2-Butanone	U		µg/L	25	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
10. n-Butylbenzene	5.1		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
11. sec-Butylbenzene	2.8		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
15. Chlorobenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
16. Chloroethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
17. Chloroform	2.9		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
18. Chloromethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
22. Dibromomethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
35. Ethylbenzene	1.5		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
37. 2-Hexanone	U		µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-033

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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-15	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93877-033B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
40. Methylene Chloride	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 41. 2-Methylnaphthalene	63		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
42. MTBE	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
43. Naphthalene	53		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
44. n-Propylbenzene	3.7		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
45. Styrene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
49. Toluene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
53. Trichloroethene	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 56. 1,2,3-Trimethylbenzene	41		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
57. 1,2,4-Trimethylbenzene	61		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
58. 1,3,5-Trimethylbenzene	12		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
60. m&p-Xylene	4.6		µg/L	2.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
61. o-Xylene	4.5		µg/L	1.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB
‡ 62. Xylenes	9.1		µg/L	3.0	1.0	12/06/19	VB19L06A	12/06/19	VB19L06A	ANB

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-033** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
3. Aniline	U		µg/L	4.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
4. Anthracene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-033

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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-15	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-033** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-15**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	41		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
57. Pentachlorophenol	U		µg/L	23	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
58. Phenanthrene	U		µg/L	2.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
59. Phenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
60. Pyrene	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
61. Pyridine	U		µg/L	5.7	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.7	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	11/27/19	PS19K27E	12/02/19	S519L02B	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-034

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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-034** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-034** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8100		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	52000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	110		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	17000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	16000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	7900		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	230		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	44000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-034** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.2	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-034** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-034

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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-034A **Matrix: Soil/Solid**
Description: SB-16 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-034

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-034A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	68	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-034** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-16 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-034

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-034 **Matrix: Soil/Solid**
Description: SB-16 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-034

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-034 **Matrix: Soil/Solid**
Description: SB-16 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-035

Order: 93877
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 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (8-9)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6300		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	40000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	240		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	13000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	6700		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	270		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	43000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.7	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-035

Order: 93877
 Page: 170 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (8-9)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-035A **Matrix: Soil/Solid**
Description: SB-16 (8-9)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-035

Order: 93877
 Page: 171 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (8-9)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-035A** Matrix: **Soil/Solid**
 Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	66	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-035

Order: 93877
 Page: 172 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (8-9)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-035** Matrix: **Soil/Solid**
 Method: **EPA 3550C/EPA 8270E** Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-035

Order: 93877
Page: 173 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (8-9)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-035** Matrix: **Soil/Solid**
Method: EPA 3550C/EPA 8270E Description: **SB-16 (8-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-036

Order: 93877
 Page: 174 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (2-3)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-036** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-036** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8700		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	41000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	88		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	5700		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	7700		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	5600		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	430		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	20000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-036** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.2	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-036** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-036

Order: 93877
Page: 175 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (2-3)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-036A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
10. n-Butylbenzene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
11. sec-Butylbenzene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
12. tert-Butylbenzene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
17. Chloroform	57		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
21. Dibromochloromethane	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
26. Dichlorodifluoromethane	U		µg/kg	360	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
27. 1,1-Dichloroethane	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
28. 1,2-Dichloroethane	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
32. 1,2-Dichloropropane	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-036

Order: 93877
Page: 176 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (2-3)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93877-036A** Matrix: **Soil/Solid**
Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
40. Methylene Chloride	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
45. Styrene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
48. Tetrachloroethene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
49. Toluene	58		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
53. Trichloroethene	U		µg/kg	72	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
60. m&p-Xylene	110		µg/kg	100	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
61. o-Xylene	90		µg/kg	50	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM
‡ 62. Xylenes	200		µg/kg	150	1.0	11/27/19	VJ19K27A	11/27/19	VJ19K27A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93877-036** Matrix: **Soil/Solid**
Description: **SB-17 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-036

Order: 93877
Page: 177 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (2-3)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-036 **Matrix: Soil/Solid**
Description: SB-17 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-036

Order: 93877
Page: 178 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (2-3)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-036 **Matrix: Soil/Solid**
Description: SB-17 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-037

Order: 93877
 Page: 179 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-037** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-17 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-037** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-17 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	7400		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	44000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	120		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	14000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	13000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	6100		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	42000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-037** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-17 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.8	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-037** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-17 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-037

Order: 93877
Page: 180 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-037A **Matrix: Soil/Solid**
Description: SB-17 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	67	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	67	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-037

Order: 93877
 Page: 181 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-037A **Matrix: Soil/Solid**
Description: SB-17 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	67	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	47	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-037 **Matrix: Soil/Solid**
Description: SB-17 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-037

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-037 **Matrix: Soil/Solid**
Description: SB-17 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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8660 S. Mackinaw Trail

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-037

Order: 93877
Page: 183 of 189
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (3-4)	Chain of Custody: 183683
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93877-037 **Matrix: Soil/Solid**
Description: SB-17 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	S619L03A	BDA

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-038

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-01	Chain of Custody: N/A
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93877-038** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

Michigan 10 Elements by ICP/MS Aliquot ID: **93877-038** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8300		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	53000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	250		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	15000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Copper	14000		µg/kg	1000	20	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Lead	11000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
7. Selenium	230		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
8. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
9. Zinc	45000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO

Mercury by CVAAS Aliquot ID: **93877-038** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.2	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93877-038** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/02/19	PS19L02B	12/02/19	SF19L02A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-038

Order: 93877
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Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-01	Chain of Custody: N/A
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93877-038A **Matrix: Soil/Solid**
Description: DUP-01

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	6200	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 2. Acrylonitrile	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
3. Benzene	540		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
4. Bromobenzene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
5. Bromochloromethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
6. Bromodichloromethane	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
7. Bromoform	U		µg/kg	1200	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
8. Bromomethane	U		µg/kg	1200	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
9. 2-Butanone	U		µg/kg	1200	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
10. n-Butylbenzene	490	E1	µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
11. sec-Butylbenzene	370	E1	µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
12. tert-Butylbenzene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
13. Carbon Disulfide	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
14. Carbon Tetrachloride	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
15. Chlorobenzene	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
16. Chloroethane	U		µg/kg	1200	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
17. Chloroform	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
18. Chloromethane	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
19. 2-Chlorotoluene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
21. Dibromochloromethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
22. Dibromomethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
23. 1,2-Dichlorobenzene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
24. 1,3-Dichlorobenzene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
25. 1,4-Dichlorobenzene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
26. Dichlorodifluoromethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
27. 1,1-Dichloroethane	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
28. 1,2-Dichloroethane	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
29. 1,1-Dichloroethene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
30. cis-1,2-Dichloroethene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
31. trans-1,2-Dichloroethene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
32. 1,2-Dichloropropane	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
33. cis-1,3-Dichloropropene	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
34. trans-1,3-Dichloropropene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
35. Ethylbenzene	1100		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
36. Ethylene Dibromide	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
37. 2-Hexanone	U		µg/kg	3100	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-038

Order: 93877
 Page: 186 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-01	Chain of Custody: N/A
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93877-038A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	560		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
39. 4-Methyl-2-pentanone	U		µg/kg	3100	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
40. Methylene Chloride	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 41. 2-Methylnaphthalene	U		µg/kg	2500	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
42. MTBE	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
43. Naphthalene	4100		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
44. n-Propylbenzene	640		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
45. Styrene	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
48. Tetrachloroethene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
49. Toluene	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
50. 1,2,4-Trichlorobenzene	U		µg/kg	2400	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
51. 1,1,1-Trichloroethane	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
52. 1,1,2-Trichloroethane	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
53. Trichloroethene	U		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
54. Trichlorofluoromethane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
55. 1,2,3-Trichloropropane	U		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 56. 1,2,3-Trimethylbenzene	3900		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
57. 1,2,4-Trimethylbenzene	920		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
58. 1,3,5-Trimethylbenzene	1900		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
59. Vinyl Chloride	U		µg/kg	430	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
60. m&p-Xylene	2700		µg/kg	620	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
61. o-Xylene	520		µg/kg	310	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 62. Xylenes	3200		µg/kg	930	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-038** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
4. Anthracene	620		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	510		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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 T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-038

Order: 93877
 Page: 187 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-01	Chain of Custody: N/A
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-038** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
8. Benzo(b)fluoranthene	420		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
23. Chrysene	330		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
25. Dibenzofuran	410		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
33. Fluoranthene	2000		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
34. Fluorene	560		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	990		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93877
Laboratory Sample Number: 93877-038

Order: 93877
 Page: 188 of 189
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-01	Chain of Custody: N/A
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93877-038** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
45. Naphthalene	2100		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
58. Phenanthrene	2900		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
60. Pyrene	1500		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/02/19	PS19L02H	12/03/19	SN19L03C	GJP

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- E1** : The reported value is estimated due to the presence of interference.
- G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.
- H** : Hold time exceeded.
- L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.
- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
- Y1** : Sample was diluted due to a sample matrix issue.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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8660 S. Mackinaw Trail

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Cadillac, MI 49601

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T: (810) 220-3300
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COPY

Client Name: DLZ Michigan Inc			PARAMETERS										Matrix Code			Deliverables			
Contact Person: Dan McNeely			MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOCs	SVOCs	PCBs	MI 10 Metals								HOLD SAMPLE	S Soil	GW Ground Water	Level 2
Project Name/ Number: DDOT Coolidge																	A Air	SW Surface Water	Level 3
Email distribution list: dmcneely@dlz.com dbrown@dlz.com																	O Oil	WW Waste Water	Level 4
Quote#																	P Wipe	X Other: Specify	EDD
Purchase Order#																	Remarks:		
Date	Time	Sample #	Client Sample Descriptor																
11-21-19	0745		SB-01 (0-1)	S	2	X	X	X											
11-21-19	0800		SB-01 (3-4)	S	2	X	X	X											
11-21-19	0815		TW-01 (USE THIS DESCR)	SW	6	X	X	X											
11-21-19	0900		SB-02 (1-2)	S	2	X	X	X											
11-21-19	0915		SB-02 (9-10)	S	2	X	X	X											
11-21-19	0945		SB-03 (9-10)	S	2	X	X	X											
11-21-19	0955		SB-04 (4-5)	S	2	X	X	X											
11-21-19	1005		SB-04 (8-9)	S	2	X	X	X											
11-21-19	1120		SB-05 (6-7)	S	2	X	X	X											
11-21-19	1130		SB-05 (14-15)	S	2	X	X	X											
Comments:																			
Sampled/Relinquished By: DLZ				Date/ Time: 11-22-19 1600				Received by: <i>[Signature]</i>											
Relinquished by: <i>[Signature]</i> / Fibertec cooler				Date/ Time: 11-25-19 0815				Received by: <i>[Signature]</i>											
Relinquished By: <i>[Signature]</i>				Date/ Time: 11-25-19 0940				Received By Laboratory: <i>[Signature]</i>											
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY															LAB USE ONLY				
<input type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____															Fibertec project number: 93877 Temperature upon receipt at Lab: 2.1°C				
Please see back for terms and conditions																			

Received By Lab
Container desc is SB-1e 9-14-19
NOV 25 2019
Initials: NS

Received
On line

COPY

Client Name: DLZ Michigan Inc.				PARAMETERS										Matrix Code				Deliverables		
Contact Person: Dan McNeely				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOC's	SVOC's	PCB's	MI 10 Metals								HOLD SAMPLE	S Soil	GW Ground Water	Level 2
Project Name/ Number: DDOT Coolidge																		A Air	SW Surface Water	Level 3
Email distribution list: dmcneely@dlz.com dbrown@dlz.com																		O Oil	WW Waste Water	Level 4
Quote#																		P Wipe	X Other: Specify	EDD
Purchase Order#				Remarks:																
Date	Time	Sample #	Client Sample Descriptor																	
11-21-19	1315		SB-06 (3-4)	S	2	X	X	X	X											
11-21-19	1330		SB-06 (4-5)	S	2	X	X	X	X											
11-21-19	1345		TW-06	GW	6	X	X	X	X											
11-21-19	1520		SB-07 (1-2)	S	2	X	X	X	X											
11-21-19	1610		SB-08 (5-6)	S	2	X	X	X	X									Received By Lab		
11-21-19	1630		TW-08	GW	6	X	X	X	X									NOV 25 2019		
11-22-19	0745		SB-09 (1-2)	S	2	X	X	X	X									Initials: <u>NE</u>		
11-22-19	0800		SB-09 (5-6)	S	2	X	X	X	X											
11-22-19	0815		TW-09	GW	3	X	X	X	X									ONLY 3 VOA's sent - cannot do anything but VOC's - client confirmed ONLY VOC'S		
11-22-19	1200		DUP-02	S	2	X	X	X	X											
Comments:																				
Sampled/Relinquished By: <i>[Signature]</i> DLZ				Date/Time: 11-22-19 1600				Received By: <i>[Signature]</i> Phil Moore FIBERTEC												
Relinquished By: <i>[Signature]</i> Phil Moore Fibertec cooler				Date/Time: 11-25-19 0815				Received By: <i>[Signature]</i>												
Relinquished By: <i>[Signature]</i>				Date/Time: 11-23/19 0940				Received By Laboratory: <i>[Signature]</i>												
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY												LAB USE ONLY								
1 bus. day				2 bus. days				3 bus. days				4 bus. days								
* 5-7 bus. days (standard)				Other (specify time/date requirement):				Fibertec project number: 93877				Temperature upon receipt at Lab: 2.10C								
Please see back for terms and conditions																				

Received
On Ice

Client Name: DLZ Michigan Inc.				PARAMETERS										Matrix Code				Deliverables					
Contact Person: Dan McNeely				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOC's	SVOC's	PCBs	MI 10 Metals								HOLD SAMPLE	S	Soil	GW	Ground Water		Level 2
Project Name/ Number: DDOT Coolidge																		A	Air	SW	Surface Water		Level 3
Email distribution list: dmccneely@dlz.com dbrown@dlz.com																		O	Oil	WW	Waste Water		Level 4
Quote#																		P	Wipe	X	Other: Specify		EDD
Purchase Order#																		Remarks:					
Date	Time	Sample #	Client Sample Descriptor																				
11-21-19	1315		SB-06 (3-4)	S	2	X	X	X	X														
11-21-19	1330		SB-06 (4-5)	S	2	X	X	X	X														
11-21-19	1345		TW-06	GW	6	X	X	X	X														
11-21-19	1520		SB-07 (1-2)	S	2	X	X	X	X														
11-21-19	1610		SB-08 (5-6)	S	2	X	X	X	X														
11-21-19	1630		TW-08	GW	6	X	X	X	X														
11-22-19	0745		SB-09 (1-2)	S	2	X	X	X	X														
11-22-19	0800		SB-09 (5-6)	S	2	X	X	X	X														
11-22-19	0815		TW-09	GW	3	X	X	X	X														
11-22-19	1200		DUP-02	S	2	X	X	X	X														
Comments:																							
Sampled/Relinquished By: DLZ				Date/ Time: 11-22-19 1600				Received By: Isabel Moore Fibertec															
Relinquished By: Phil Moore Fibertec Coolidge				Date/ Time: 11-25-19 0815				Received By: [Signature]															
Relinquished By: [Signature]				Date/ Time: 11-25/19 0940				Received By Laboratory: [Signature]															
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																LAB USE ONLY							
<input type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____																Fibertec project number: 93877 Temperature upon receipt at Lab: 2.10C							
Please see back for terms and conditions																							

Received By Lab

NOV 25 2019

Initials: NE

Received
On Ice

Client Name: DLZ Michigan Inc		PARAMETERS		Matrix Code		Deliverables	
Contact Person: Dan McNeely		VOCs SVOCs PCBs MI 10 Metals		S Soil		Level 2	
Project Name/ Number: DDOT Coolidge				A Air		Level 3	
Email distribution list: dmcneely@dlz.com dbrown@dlz.com				O Oil		Level 4	
Quote#				P Wipe		EDD	
Purchase Order#		HOLD SAMPLE		GW Ground Water			
Date		Time		SW Surface Water			
Sample #		Client Sample Descriptor		ww Waste Water			
				x Other: Specify			
Comments:		REMARKS:					
Sampled/Relinquished By: DLZ		Date/Time: 11-22-19 1600		Received By: Phil Moore			
Relinquished By: Phil Moore		Date/Time: 11/25/19 0815		Received By: [Signature]			
Relinquished By: [Signature]		Date/Time: 11/25/19 0940		Received By Laboratory: [Signature]			
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY ___ 1 bus. day ___ 2 bus. days ___ 3 bus. days ___ 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____				LAB USE ONLY Fibertec project number: 93877 Temperature upon receipt at Lab: 2.10C			
Please see back for terms and conditions							

Received By Lab
NOV 25 2019
Initials: **ME**

Received On Ice

Client Name: DLZ Michigan Inc				PARAMETERS HOLD SAMPLE MATRIX (SEE RIGHT CORNER FOR CODE) # OF CONTAINERS VOC's SVOC's PCB's MI 10 Metals										Matrix Code				Deliverables	
Contact Person: Dan McNeeley														S Soil		GW Ground Water		Level 2	
Project Name/ Number: DDOT Coolidge				A Air		SW Surface Water		Level 3											
Email distribution list: dmneely @ dlz . com cbrown @ dlz . com				O Oil		ww Waste Water		Level 4											
Quote#				P Wipe		X Other: Specify		EDD											
Purchase Order#				Remarks:															
Date	Time	Sample #	Client Sample Descriptor																
11-22-19	1255		SB-15 (1-2)	S	2	X	X	X	X										
11-22-19	1310		SB-15 (4-5)	S	2	X	X	X	X										
11-22-19	1400		TW-15	6	6	X	X	X	X										
11-22-19	1500		SB-16 (3-4)	S	2	X	X	X	X										
11-22-19	1505		SB-16 (8-9)	S	2	X	X	X	X										
11-22-19	1515		SB-17 (2-3)	S	3	X	X	X	X										
11-22-19	1525		SB-17 (3-4)	S	3	X	X	X	X										
Comments:				Received By Lab NOV 25 2019 Initials: <u>ME</u>															
Sampled/Relinquished By: DLZ				Date/ Time: 11-22-19 1600				Received by: Phil Moore fibertec											
Relinquished By: Phil Moore fibertec				Date/ Time: 11-25-19 0815				Received By: [Signature]											
Relinquished By: [Signature]				Date/ Time: 11-25-19 0940				Received By Laboratory: [Signature]											
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY ___ 1 bus. day ___ 2 bus. days ___ 3 bus. days ___ 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____										LAB USE ONLY Fibertec project number: 93877 Temperature upon receipt at Lab: 2.1°C <div style="border: 1px solid red; padding: 5px; display: inline-block; color: red; font-weight: bold;"> Received On Ice </div>									
Please see back for terms and conditions																			



Thursday, December 12, 2019

Fibertec Project Number: 93935
Project Identification: DDOT Coolidge /
Submittal Date: 11/26/2019

Mr. Dan McNeely
DLZ Michigan, Inc. - Lansing
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. McNeely,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Sharon Rakow at 12:15 PM, Dec 12, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-001

Order: 93935
 Page: 2 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-001** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-18 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-001** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-18 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	12000		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	14000000		µg/kg	400000	8000	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	26000		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	140000		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	30000000		µg/kg	80000	8000	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	64000000		µg/kg	40000	8000	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	1600		µg/kg	200	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	1000		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	35000000		µg/kg	400000	8000	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-001** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-18 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.1	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-001** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-18 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	23000		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	1500	100	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-001

Order: 93935
Page: 3 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-001A **Matrix: Soil/Solid**
Description: SB-18 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/kg	3200	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
3. Benzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
4. Bromobenzene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
5. Bromochloromethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
6. Bromodichloromethane	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
7. Bromoform	U	Y1	µg/kg	650	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
8. Bromomethane	U	Y1	µg/kg	650	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
9. 2-Butanone	U	Y1	µg/kg	750	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
10. n-Butylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
11. sec-Butylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
12. tert-Butylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
13. Carbon Disulfide	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
14. Carbon Tetrachloride	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
15. Chlorobenzene	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
16. Chloroethane	U	Y1	µg/kg	650	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
17. Chloroform	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
18. Chloromethane	U	Y1	µg/kg	250	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
19. 2-Chlorotoluene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
21. Dibromochloromethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
22. Dibromomethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
35. Ethylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
36. Ethylene Dibromide	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
37. 2-Hexanone	U	Y1	µg/kg	2500	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-001

Order: 93935
Page: 4 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-001A **Matrix: Soil/Solid**
Description: SB-18 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U	Y1	µg/kg	250	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/kg	2500	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
40. Methylene Chloride	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/kg	1300	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
42. MTBE	U	Y1	µg/kg	250	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
43. Naphthalene	U	Y1	µg/kg	330	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
44. n-Propylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
45. Styrene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
48. Tetrachloroethene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
49. Toluene	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/kg	1200	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
53. Trichloroethene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
54. Trichlorofluoromethane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
59. Vinyl Chloride	U	Y1	µg/kg	230	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
60. m&p-Xylene	U	Y1	µg/kg	320	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
61. o-Xylene	U	Y1	µg/kg	160	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF
‡ 62. Xylenes	U	Y1	µg/kg	490	4.0	12/04/19	VI19L04B	12/04/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-001 **Matrix: Soil/Solid**
Description: SB-18 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	3000		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-001

Order: 93935
 Page: 5 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-001 **Matrix: Soil/Solid**
Description: SB-18 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	6900		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	7900		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	6600		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	1700		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	3200		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	4600		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	1900	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	19000	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	4000		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	3700		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	9600	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-001

Order: 93935
 Page: 6 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-001** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-18 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	Y1	µg/kg	1900	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	Y1	µg/kg	2700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	9600	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
58. Phenanthrene	1600		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
59. Phenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
60. Pyrene	3600		µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	4800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	1900	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	Y1	µg/kg	960	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-002

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-002** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-18 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-002** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-18 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7200		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	65000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	160		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	15000		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	18000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	15000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	290		µg/kg	200	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	59000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-002** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-18 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-002** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-18 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-002

Order: 93935
Page: 8 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-002A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-18 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	140	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-002

Order: 93935
Page: 9 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-002A **Matrix: Soil/Solid**
Description: SB-18 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	72	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-002 **Matrix: Soil/Solid**
Description: SB-18 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-002

Order: 93935
Page: 10 of 262
Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-18 (4-5)** Chain of Custody: **183685**
Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **08:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-002 **Matrix: Soil/Solid**
Description: SB-18 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	360	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	190	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	390	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3900	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	730	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1900	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-002

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-18 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-002 **Matrix: Soil/Solid**
Description: SB-18 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	1900	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
58. Phenanthrene	450	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
60. Pyrene	580	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	970	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	390	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-003

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (9-10)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-003** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-003** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7900		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	50000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	110		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	7500		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	41000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-003** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-003

Order: 93935
Page: 13 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (9-10)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-003A **Matrix: Soil/Solid**
Description: SB-19 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	130	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	64	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	64	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	64	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-003

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (9-10)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-003A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	64	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	45	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-003

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (9-10)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-003** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-19 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-003

Order: 93935
Page: 16 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (9-10)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-003 **Matrix: Soil/Solid**
Description: SB-19 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-004

Order: 93935
 Page: 17 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-19 (14-15)** Chain of Custody: **183685**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **08:20**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-004** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-004** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5900		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	120000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	68		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	13000		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	9300		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	4800		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	27000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-004** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.3	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-004** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SC19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-004

Order: 93935
Page: 18 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-004A **Matrix: Soil/Solid**
Description: SB-19 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	120	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	62	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	62	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	62	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-004

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-004A** Matrix: **Soil/Solid**
 Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	62	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	43	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-004** Matrix: **Soil/Solid**
 Description: **SB-19 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-004

Order: 93935
Page: 20 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-004 **Matrix: Soil/Solid**
Description: SB-19 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-004

Order: 93935
 Page: 21 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-19 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-004 **Matrix: Soil/Solid**
Description: SB-19 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-005

Order: 93935
 Page: 22 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-20 (1-2)** Chain of Custody: **183685**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **08:50**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-005** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-20 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-005** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-20 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	55000		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	120000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	790		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	9400		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	60000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	70000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	3000		µg/kg	200	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	100000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-005** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-20 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-005** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-20 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/11/19	SF19L11A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-005

Order: 93935
Page: 23 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-005A** Matrix: **Soil/Solid**
Description: **SB-20 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	130		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	85		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	180	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	67	E1	µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	55		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	90	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	90	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	90	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	230		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-005

Order: 93935
Page: 24 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-005A **Matrix: Soil/Solid**
Description: SB-20 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	1200		µg/kg	360	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	1100		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	90	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	940		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	340	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	300		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	410		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	930		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	610		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	1500		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-005 **Matrix: Soil/Solid**
Description: SB-20 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	570		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	2300		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-005

Order: 93935
Page: 25 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-005 **Matrix: Soil/Solid**
Description: SB-20 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	2500		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	3600		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	2100		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	1300		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	210	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	2300		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	430		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	340	V+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	420	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4200	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	4600		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	2000		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	2100	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	820		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-006

Order: 93935
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 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-20 (4-5)** Chain of Custody: **183685**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-006** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	22		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-006** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7600		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
2. Barium	74000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
3. Cadmium	210		µg/kg	50	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
6. Lead	9600		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
7. Selenium	7100	F-	µg/kg	2000	200	12/04/19	PT19L04A	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO
9. Zinc	53000		µg/kg	1000	20	12/04/19	PT19L04A	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-006** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-006** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-006

Order: 93935
Page: 28 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-006A **Matrix: Soil/Solid**
Description: SB-20 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	77	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	77	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	77	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-006

Order: 93935
Page: 29 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-006A** Matrix: **Soil/Solid**
Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	77	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	290	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	54	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-006** Matrix: **Soil/Solid**
Description: **SB-20 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-006

Order: 93935
Page: 30 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-006 **Matrix: Soil/Solid**
Description: SB-20 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-006

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-20 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-006 **Matrix: Soil/Solid**
Description: SB-20 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-007

Order: 93935
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 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-21 (4-5)** Chain of Custody: **183685**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:40**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-007** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	27		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-007** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5500		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	77000	*	µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	270		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	14000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	590		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	56000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-007** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-007** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-007

Order: 93935
 Page: 33 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-007A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	170	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	87	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	87	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	87	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-007

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-007A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	350	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	87	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	61	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-007** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-21 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-007

Order: 93935
 Page: 35 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-007 **Matrix: Soil/Solid**
Description: SB-21 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-007

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-007 **Matrix: Soil/Solid**
Description: SB-21 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-008

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-008** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-21 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-008** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-21 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7400		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	37000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	8100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	44000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-008** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-21 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.6	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-008** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-21 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

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Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-008

Order: 93935
 Page: 38 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-008A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-21 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	130	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-008

Order: 93935
Page: 39 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-008A **Matrix: Soil/Solid**
Description: SB-21 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	44	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-008 **Matrix: Soil/Solid**
Description: SB-21 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-008

Order: 93935
Page: 40 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-008 **Matrix: Soil/Solid**
Description: SB-21 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-008

Order: 93935
Page: 41 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (14-15)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-008 **Matrix: Soil/Solid**
Description: SB-21 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-009

Order: 93935
 Page: 42 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-22 (1-2)** Chain of Custody: **183685**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **10:20**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-009** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-009** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7400		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	180000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	640		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	12000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	100000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	58000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	610		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	53000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-009** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.4	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-009** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-009

Order: 93935
Page: 43 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-009A** Matrix: **Soil/Solid**
Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	51		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	190	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	56		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	94	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	94	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	94	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	130		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-009

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-009A** Matrix: **Soil/Solid**
Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	590		µg/kg	380	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	350		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	94	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	350		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	360	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	120		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	240		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	460		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	290		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	740		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-009** Matrix: **Soil/Solid**
Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	1300	V+	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	1100		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	3200		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	17000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-009

Order: 93935
Page: 45 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-009 **Matrix: Soil/Solid**
Description: SB-22 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	27000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	37000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	21000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	12000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	15000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	4300		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	1400	V+	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	1900	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	19000	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	31000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	2100	V+	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	22000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	9300	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-009

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (1-2)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-009** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-22 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
45. Naphthalene	1700	V+	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	Y1	µg/kg	1800	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	Y1	µg/kg	2600	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	9300	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
58. Phenanthrene	9000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
59. Phenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
60. Pyrene	36000		µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	4700	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	1900	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	Y1	µg/kg	930	25	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-010

Order: 93935
 Page: 47 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-010** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	22		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-010** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	13000		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	95000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	410		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	11000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	14000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	800		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	72000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-010** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-010** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/04/19	PS19L04A	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-010

Order: 93935
 Page: 48 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-010A** Matrix: **Soil/Solid**
 Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	160	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	79	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	79	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	79	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-010

Order: 93935
Page: 49 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-010A** Matrix: **Soil/Solid**
Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	79	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	300	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	55	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-010** Matrix: **Soil/Solid**
Description: **SB-22 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-010

Order: 93935
Page: 50 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-010 **Matrix: Soil/Solid**
Description: SB-22 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-010

Order: 93935
Page: 51 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-22 (4-5)	Chain of Custody: 183685
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-010 **Matrix: Soil/Solid**
Description: SB-22 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-011

Order: 93935
 Page: 52 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-011** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-23 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-011** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-23 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	9200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	64000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	19000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	9300		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	270		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	39000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-011** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-23 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-011** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-23 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-011

Order: 93935
 Page: 53 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-011A** Matrix: **Soil/Solid**
 Description: **SB-23 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	110		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	130	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	61		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	74	E1	µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-011

Order: 93935
Page: 54 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-011A **Matrix: Soil/Solid**
Description: SB-23 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	66	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	210		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	46	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-011 **Matrix: Soil/Solid**
Description: SB-23 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-011

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-011 **Matrix: Soil/Solid**
Description: SB-23 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-012

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-012** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-012** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	9000		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	51000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	150		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	16000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	7600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	42000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-012** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-012** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-012

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-012A **Matrix: Soil/Solid**
Description: SB-23 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	110	E1	µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	86	E1	µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-012

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-012A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	65	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-012** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-23 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-012

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-012 **Matrix: Soil/Solid**
Description: SB-23 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-012

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-23 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-012 **Matrix: Soil/Solid**
Description: SB-23 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-013

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (1-2)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-013** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-013** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	4200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	25000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	230		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	8700		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	8600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	25000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	41000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-013** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.9	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-013** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

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F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-013

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (1-2)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-013A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	140	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	68	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	68	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	68	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-013

Order: 93935
 Page: 64 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (1-2)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-013A** Matrix: **Soil/Solid**
 Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	68	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	260	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	48	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-013** Matrix: **Soil/Solid**
 Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-013

Order: 93935
Page: 65 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (1-2)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-013 **Matrix: Soil/Solid**
Description: SB-24 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	370		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
8. Benzo(b)fluoranthene	640		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
23. Chrysene	350		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
33. Fluoranthene	550		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-013

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (1-2)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-013** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-24 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
60. Pyrene	790		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-014

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-014** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-014** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	2500		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	4700		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	59		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	4400		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	3600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	2100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	12000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-014** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-014** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-014

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-014A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	130	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-014

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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-014A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	63	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	44	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-014** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-24 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-014

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-014 **Matrix: Soil/Solid**
Description: SB-24 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-014

Order: 93935
 Page: 71 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-24 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-014 **Matrix: Soil/Solid**
Description: SB-24 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-015

Order: 93935
Page: 72 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (5-6)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-015** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-25 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	21		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-015** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-25 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	71000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	280		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	23000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	17000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	15000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	6300		µg/kg	2000	200	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	64000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-015** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-25 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-015** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-25 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-015

Order: 93935
Page: 73 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (5-6)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-015A **Matrix: Soil/Solid**
Description: SB-25 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
3. Benzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
7. Bromoform	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
10. n-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
14. Carbon Tetrachloride	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
15. Chlorobenzene	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
17. Chloroform	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
21. Dibromochloromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
27. 1,1-Dichloroethane	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	76	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	76	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
32. 1,2-Dichloropropane	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	76	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-015

Order: 93935
Page: 74 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (5-6)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-015A **Matrix: Soil/Solid**
Description: SB-25 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
40. Methylene Chloride	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
42. MTBE	U		µg/kg	250	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
45. Styrene	U		µg/kg	76	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
48. Tetrachloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
49. Toluene	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	290	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
53. Trichloroethene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
59. Vinyl Chloride	U		µg/kg	53	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/04/19	VI19L04B	12/05/19	VI19L04B	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-015 **Matrix: Soil/Solid**
Description: SB-25 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-015

Order: 93935
Page: 75 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (5-6)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-015 **Matrix: Soil/Solid**
Description: SB-25 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-015

Order: 93935
Page: 76 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (5-6)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-015 **Matrix: Soil/Solid**
Description: SB-25 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-016

Order: 93935
Page: 77 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (14-15)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-016** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-25 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-016** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-25 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7500		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	46000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	18000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	8200		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	44000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-016** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-25 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.3	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-016** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-25 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/05/19	SA19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-016

Order: 93935
Page: 78 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (14-15)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-016A **Matrix: Soil/Solid**
Description: SB-25 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-016

Order: 93935
Page: 79 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (14-15)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-016A **Matrix: Soil/Solid**
Description: SB-25 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-016 **Matrix: Soil/Solid**
Description: SB-25 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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8660 S. Mackinaw Trail

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-016

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (14-15)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-016 **Matrix: Soil/Solid**
Description: SB-25 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-016

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-25 (14-15)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-016 **Matrix: Soil/Solid**
Description: SB-25 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-017

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-017** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-017** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	1500		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	12000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	53		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	4200		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	3200		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	2300		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	11000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-017** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-017** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-017

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-017A **Matrix: Soil/Solid**
Description: SB-26 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-017

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-017A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	60	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-017** Matrix: **Soil/Solid**
 Method: **EPA 3550C/EPA 8270E** Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
2. Acenaphthylene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
3. Aniline	U	L+	µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
4. Anthracene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-017

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-017** Matrix: **Soil/Solid**
Method: EPA 3550C/EPA 8270E Description: **SB-26 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	180	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
‡ 18. Carbazole	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
23. Chrysene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
25. Dibenzofuran	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
28. 2,4-Dimethylphenol	440		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	1800	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
33. Fluoranthene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
34. Fluorene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
37. Hexachlorocyclopentadiene	U	F-	µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
38. Hexachloroethane	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
40. Isophorone	U	L+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
41. 2-Methyl-4,6-dinitrophenol	U	F-	µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
43. 2-Methylphenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-017

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (4-5)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93935-017 **Matrix: Soil/Solid**
Description: SB-26 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
45. Naphthalene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
46. 2-Nitroaniline	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
47. 3-Nitroaniline	U		µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
48. 4-Nitroaniline	U		µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
49. Nitrobenzene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
50. 2-Nitrophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
57. Pentachlorophenol	U		µg/kg	910	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
58. Phenanthrene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
59. Phenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
60. Pyrene	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
61. Pyridine	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	S619L05A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-018

Order: 93935
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 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-26 (7-8)** Chain of Custody: **183691**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **14:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-018** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-26 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-018** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-26 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	1300		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	8100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	55		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	4300		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	3000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	3100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	9200		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-018** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-26 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04A	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-018** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-26 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-018

Order: 93935
Page: 88 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-018A **Matrix: Soil/Solid**
Description: SB-26 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	3400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	3400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	2900		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	2100	E1	µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	3400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	3400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-018

Order: 93935
Page: 89 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-018A **Matrix: Soil/Solid**
Description: SB-26 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	590		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	3400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	5300		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	1500		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	1400	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	680	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	340	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	1000	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-018 **Matrix: Soil/Solid**
Description: SB-26 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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8660 S. Mackinaw Trail

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-018

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-018 **Matrix: Soil/Solid**
Description: SB-26 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	400	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	200	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	590	V+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	400	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	400	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	1300	V+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	2000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	4200	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-018

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (7-8)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-018 **Matrix: Soil/Solid**
Description: SB-26 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	2000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
58. Phenanthrene	470	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
60. Pyrene	700	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	1000	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	400	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	5.0	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-019

Order: 93935
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 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-27 (3-4)** Chain of Custody: **183691**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **14:25**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-019** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-019** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	1600		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	8200		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	52		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	3500		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	2900		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	2100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	8500		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-019** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-019** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-019

Order: 93935
Page: 93 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-019A** Matrix: **Soil/Solid**
Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-019

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-019A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-019** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-27 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
4. Anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
6. Benzo(a)anthracene	780		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-019

Order: 93935
Page: 95 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-019 **Matrix: Soil/Solid**
Description: SB-27 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	910		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
8. Benzo(b)fluoranthene	1400		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
9. Benzo(ghi)perylene	480		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
10. Benzo(k)fluoranthene	410		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
23. Chrysene	680		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
33. Fluoranthene	860		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
34. Fluorene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
39. Indeno(1,2,3-cd)pyrene	550		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-019

Order: 93935
Page: 96 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (3-4)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-019 **Matrix: Soil/Solid**
Description: SB-27 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
59. Phenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
60. Pyrene	900		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
61. Pyridine	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/04/19	PS19L04C	12/05/19	SN19L05C	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-020

Order: 93935
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 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-27 (9-10)** Chain of Custody: **183691**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/25/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **14:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-020** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-020** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	530		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	7800		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	U		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	3300		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	2400		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	1600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	5900		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-020** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-020** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
2. Aroclor-1221	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
3. Aroclor-1232	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
4. Aroclor-1242	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
5. Aroclor-1248	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
6. Aroclor-1254	1100	J+	µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
7. Aroclor-1260	800	J+	µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
‡ 8. Aroclor-1262	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK
‡ 9. Aroclor-1268	U		µg/kg	370	25	12/05/19	PS19L05A	12/11/19	SF19L11A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-020

Order: 93935
Page: 98 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (9-10)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-020A **Matrix: Soil/Solid**
Description: SB-27 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	3100	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	3100	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	1700	E1	µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	350		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	3100	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	530		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	3100	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-020

Order: 93935
Page: 99 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (9-10)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-020A** Matrix: **Soil/Solid**
Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	3100	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	190000		µg/kg	5000	40	12/07/19	VJ19L07A	12/07/19	VJ19L07A	JLM
42. MTBE	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	16000		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	670		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	1200	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	2500		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	5000		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	1200		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	1100		µg/kg	620	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	1200		µg/kg	310	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	2300		µg/kg	930	10	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-020** Matrix: **Soil/Solid**
Description: **SB-27 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	14000	V+	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
4. Anthracene	13000		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	6600		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-020

Order: 93935
Page: 100 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (9-10)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-020 **Matrix: Soil/Solid**
Description: SB-27 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	5900		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	4900		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	4800		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	Y1	µg/kg	7700	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
23. Chrysene	8700		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	6000	V+	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	9300	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	93000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
33. Fluoranthene	7600		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
34. Fluorene	25000	V+	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	46000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	120000		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-020

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-27 (9-10)	Chain of Custody: 183691
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-020 **Matrix: Soil/Solid**
Description: SB-27 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
45. Naphthalene	13000	V+	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	Y1	µg/kg	9100	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	Y1	µg/kg	13000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	46000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
58. Phenanthrene	77000		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
59. Phenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
60. Pyrene	35000		µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	23000	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	9300	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	Y1	µg/kg	4600	130	12/04/19	PS19L04C	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-021

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (4-5)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: 93935-021 Matrix: Soil/Solid
Method: ASTM D2216-10 Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: 93935-021 Matrix: Soil/Solid
Method: EPA 0200.2/EPA 6020A Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	1600		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	8700		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	53		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	4100		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	2100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	1900		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	7700		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: 93935-021 Matrix: Soil/Solid
Method: EPA 7471B Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.0	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 93935-021 Matrix: Soil/Solid
Method: EPA 3546/EPA 8082A Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-021

Order: 93935
 Page: 103 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (4-5)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-021A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-28 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-021

Order: 93935
Page: 104 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (4-5)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-021A **Matrix: Soil/Solid**
Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-021 **Matrix: Soil/Solid**
Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-021

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (4-5)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-021 **Matrix: Soil/Solid**
Description: SB-28 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-021

Order: 93935
 Page: 106 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (4-5)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-021** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-28 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-022

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (12-13)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-022** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-28 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-022** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-28 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	3200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	12000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	69		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	5600		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	3600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	3200		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	13000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-022** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-28 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-022** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-28 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-022

Order: 93935
 Page: 108 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (12-13)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-022A** Matrix: **Soil/Solid**
 Description: **SB-28 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
10. n-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	350	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-022

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (12-13)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-022A **Matrix: Soil/Solid**
Description: SB-28 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	420		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-022 **Matrix: Soil/Solid**
Description: SB-28 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-022

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (12-13)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-022 **Matrix: Soil/Solid**
Description: SB-28 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-022

Order: 93935
Page: 111 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-28 (12-13)	Chain of Custody: 183696
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-022 **Matrix: Soil/Solid**
Description: SB-28 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-023

Order: 93935
 Page: 112 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-023** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-29 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	17		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-023** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-29 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	3200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	31000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	160		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	6200		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	5400		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	8600		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	310		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	19000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-023** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-29 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.3	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-023** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-29 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-023

Order: 93935
Page: 113 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-023A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-29 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	350	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-023

Order: 93935
Page: 114 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-023A **Matrix: Soil/Solid**
Description: SB-29 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	71	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-023 **Matrix: Soil/Solid**
Description: SB-29 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-023

Order: 93935
Page: 115 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-023 **Matrix: Soil/Solid**
Description: SB-29 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-023

Order: 93935
 Page: 116 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-023 **Matrix: Soil/Solid**
Description: SB-29 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-024

Order: 93935
 Page: 117 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (14-15)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-024** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-024** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5500		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	46000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	87		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	15000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	6700		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	37000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-024** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.5	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-024** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-024

Order: 93935
 Page: 118 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (14-15)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-024A** Matrix: **Soil/Solid**
 Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	310	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-024

Order: 93935
Page: 119 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (14-15)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-024A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-024** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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8660 S. Mackinaw Trail

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-024

Order: 93935
Page: 120 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-29 (14-15)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-024** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-29 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-025

Order: 93935
 Page: 122 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (1-2)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-025** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-025** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7900		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	66000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	12000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	7900		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	280		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	34000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-025** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-025** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-025

Order: 93935
Page: 123 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (1-2)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-025A** Matrix: **Soil/Solid**
Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	390	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-025

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (1-2)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-025A** Matrix: **Soil/Solid**
Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	77	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	140		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-025** Matrix: **Soil/Solid**
Description: **SB-30 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-025

Order: 93935
 Page: 125 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (1-2)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-025 **Matrix: Soil/Solid**
Description: SB-30 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-025

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (1-2)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-025 **Matrix: Soil/Solid**
Description: SB-30 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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Holt, MI 48842
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 Cadillac, MI 49601

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F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-026

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-026** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-026** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8200		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
2. Barium	50000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
3. Cadmium	180		µg/kg	50	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
6. Lead	7100		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
7. Selenium	240		µg/kg	200	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO
9. Zinc	39000		µg/kg	1000	20	12/04/19	PT19L04B	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-026** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.0	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-026** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05A	12/06/19	SA19L06B	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-026

Order: 93935
Page: 128 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-026A **Matrix: Soil/Solid**
Description: SB-30 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-026

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-30 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-026A** Matrix: **Soil/Solid**
Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	65	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-026** Matrix: **Soil/Solid**
Description: **SB-30 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-026

Order: 93935
Page: 130 of 262
Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-30 (4-5)** Chain of Custody: **183730**
Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-026 **Matrix: Soil/Solid**
Description: SB-30 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L05B	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-027

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-027** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-027** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	2100		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	24000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	4100		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	3700		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	4800		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	300		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	14000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-027** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.6	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-027** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Holt, MI 48842
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-027

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-027A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-027

Order: 93935
 Page: 134 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-31 (4-5)** Chain of Custody: **183730**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-027A** Matrix: **Soil/Solid**
 Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-027** Matrix: **Soil/Solid**
 Description: **SB-31 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-027

Order: 93935
Page: 135 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-027 **Matrix: Soil/Solid**
Description: SB-31 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-027

Order: 93935
Page: 136 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (4-5)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-027 **Matrix: Soil/Solid**
Description: SB-31 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Holt, MI 48842
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Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-028

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (6-7)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-028** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-028** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	12000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	61000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	180		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	9200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	230		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	40000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-028** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.5	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-028** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-028

Order: 93935
Page: 138 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (6-7)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-028A **Matrix: Soil/Solid**
Description: SB-31 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	370	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-028

Order: 93935
Page: 139 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (6-7)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-028A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	75	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-028** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-31 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-028

Order: 93935
Page: 140 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (6-7)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-028 **Matrix: Soil/Solid**
Description: SB-31 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-028

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-31 (6-7)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-028 **Matrix: Soil/Solid**
Description: SB-31 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-029

Order: 93935
 Page: 142 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-32 (3-4)** Chain of Custody: **183730**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	4600		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	75000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	13000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	12000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	9200		µg/kg	2000	200	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	25000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.6	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-029

Order: 93935
Page: 143 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-029A **Matrix: Soil/Solid**
Description: SB-32 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-029

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-029A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-029

Order: 93935
Page: 145 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-029 **Matrix: Soil/Solid**
Description: SB-32 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-029

Order: 93935
Page: 146 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (3-4)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-029** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-32 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-030

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (12-13)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-030** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-030** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	48000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	110		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	15000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6500		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	39000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-030** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-030** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-030

Order: 93935
Page: 148 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (12-13)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-030A** Matrix: **Soil/Solid**
Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-030

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (12-13)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-030A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-030** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-32 (12-13)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-030

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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (12-13)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-030 **Matrix: Soil/Solid**
Description: SB-32 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-030

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (12-13)	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-030 **Matrix: Soil/Solid**
Description: SB-32 (12-13)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-031

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-03	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-031** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-031** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	59000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	79		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	14000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	8100		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6500		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	280		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	29000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-031** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-031** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-031

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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-03	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-031A** Matrix: **Soil/Solid**
Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	340	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-031

Order: 93935
Page: 154 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-03	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-031A** Matrix: **Soil/Solid**
Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	67	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-031** Matrix: **Soil/Solid**
Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-031

Order: 93935
 Page: 155 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-03	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-031 **Matrix: Soil/Solid**
Description: DUP-03

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Holt, MI 48842
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T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-031

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-03	Chain of Custody: 183730
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 08:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-031** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **DUP-03**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
58. Phenanthrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
60. Pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-032

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7200		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	41000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	100		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	13000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6700		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	38000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-032

Order: 93935
Page: 158 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-032A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-032

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-032A** Matrix: **Soil/Solid**
 Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA

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 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-032

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93935-032 **Matrix: Soil/Solid**
Description: SB-33 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
12. Bis(2-chloroethoxy)methane	U	F+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
30. 2,4-Dinitrophenol	U	*	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
41. 2-Methyl-4,6-dinitrophenol	U	F-	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
43. 2-Methylphenol	U	F+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-032

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-032** Matrix: **Soil/Solid**
 Method: **EPA 3550C/EPA 8270E** Description: **SB-33 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
54. N-Nitrosodiphenylamine	U	F+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
55. Di-n-octyl Phthalate	U	F+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
57. Pentachlorophenol	U	F-	µg/kg	800	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
59. Phenol	U	F+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SN19L05C	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-033

Order: 93935
 Page: 162 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-33 (7-8)** Chain of Custody: **183688**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **10:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-033** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-33 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-033** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-33 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6700		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	42000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	110		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	7000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	39000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-033** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-33 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.2	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-033** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-33 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-033

Order: 93935
Page: 163 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (7-8)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-033A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-33 (7-8)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	320	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-033

Order: 93935
Page: 164 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (7-8)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-033A **Matrix: Soil/Solid**
Description: SB-33 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	64	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-033 **Matrix: Soil/Solid**
Description: SB-33 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-033

Order: 93935
 Page: 165 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (7-8)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-033 **Matrix: Soil/Solid**
Description: SB-33 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-033

Order: 93935
 Page: 166 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-33 (7-8)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-033 **Matrix: Soil/Solid**
Description: SB-33 (7-8)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-034

Order: 93935
Page: 167 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-034** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-034** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	13000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	150000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	450		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	19000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	17000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	9200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	250		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	44000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-034** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.4	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-034** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-034

Order: 93935
Page: 168 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-034A **Matrix: Soil/Solid**
Description: SB-34 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	350	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-034

Order: 93935
Page: 169 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-034A** Matrix: **Soil/Solid**
Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	69	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-034** Matrix: **Soil/Solid**
Description: **SB-34 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-034

Order: 93935
Page: 170 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-034 **Matrix: Soil/Solid**
Description: SB-34 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-034

Order: 93935
Page: 171 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-034 **Matrix: Soil/Solid**
Description: SB-34 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
59. Phenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/05/19	PS19L05E	12/06/19	S619L06A	BDA

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Holt, MI 48842
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-035

Order: 93935
 Page: 172 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-34 (9-10)** Chain of Custody: **183688**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **10:50**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-035** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-035** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7200		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	39000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	94		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	13000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6700		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	40000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-035** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.3	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-035** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-035

Order: 93935
Page: 173 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (9-10)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-035A** Matrix: **Soil/Solid**
Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-035

Order: 93935
Page: 174 of 262
Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-34 (9-10)** Chain of Custody: **183688**
Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **10:50**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-035A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	61	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-035** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-34 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-035

Order: 93935
Page: 175 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (9-10)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-035 **Matrix: Soil/Solid**
Description: SB-34 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-035

Order: 93935
Page: 176 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-34 (9-10)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 10:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-035 **Matrix: Soil/Solid**
Description: SB-34 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
58. Phenanthrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
60. Pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-036

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-036** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-036** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	140000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	U		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	19000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	12000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	8600		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	220		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	40000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-036** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.9	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-036** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

1914 Holloway Drive
 11766 E. Grand River
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Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-036

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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-036A** Matrix: **Soil/Solid**
Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	360	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
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F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-036

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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-036A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	73	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-036** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Holt, MI 48842
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 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-036

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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-036 **Matrix: Soil/Solid**
Description: SB-35 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-036

Order: 93935
Page: 181 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (1-2)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:15

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-036** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-35 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
58. Phenanthrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
60. Pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-037

Order: 93935
Page: 182 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-037** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-037** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6700		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	39000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	15000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	13000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	39000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-037** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-037** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-037

Order: 93935
Page: 183 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-037A** Matrix: **Soil/Solid**
Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	310	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-037

Order: 93935
 Page: 184 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-037A** Matrix: **Soil/Solid**
 Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-037** Matrix: **Soil/Solid**
 Description: **SB-35 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Holt, MI 48842
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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-037

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-037 **Matrix: Soil/Solid**
Description: SB-35 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-037

Order: 93935
Page: 186 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-35 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-037 **Matrix: Soil/Solid**
Description: SB-35 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
58. Phenanthrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
60. Pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-038

Order: 93935
 Page: 187 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-038** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-36 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-038** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-36 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	2300		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	8200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	U		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	6300		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	2000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	2200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	8800		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-038** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-36 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.1	12/04/19	PM19L04B	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-038** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-36 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-038

Order: 93935
Page: 188 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-038A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-36 (3-4)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	3200	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	3200	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	7300		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	7900	E1	µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	3200	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	3200	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-038

Order: 93935
 Page: 189 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-36 (3-4)** Chain of Custody: **183688**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **11:55**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-038A **Matrix: Soil/Solid**
Description: SB-36 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	2400		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	3200	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	12000		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	4900		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	1300	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	16000		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	34000		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	630	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	320	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	950	10	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-038 **Matrix: Soil/Solid**
Description: SB-36 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-038

Order: 93935
Page: 190 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-038 **Matrix: Soil/Solid**
Description: SB-36 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	190	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	970	V+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	380	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3800	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	1600	V+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1900	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	11000	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-038

Order: 93935
 Page: 191 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (3-4)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-038 **Matrix: Soil/Solid**
Description: SB-36 (3-4)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	1900	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
58. Phenanthrene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
59. Phenol	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
60. Pyrene	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	950	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	380	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	5.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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 Cadillac, MI 49601

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F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-039

Order: 93935
 Page: 192 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-039** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-039** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6500		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	42000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	91		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6500		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	37000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-039** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.1	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-039** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-039

Order: 93935
Page: 193 of 262
Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-36 (14-15)** Chain of Custody: **183688**
Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **12:05**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-039A** Matrix: **Soil/Solid**
Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	310	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-039

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-039A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	63	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	210		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-039** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-36 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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 11766 E. Grand River
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Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-039

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-36 (14-15)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-039 **Matrix: Soil/Solid**
Description: SB-36 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
33. Fluoranthene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/kg	830	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/05/19	PS19L05E	12/05/19	SJ19L05A	GJP

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Holt, MI 48842
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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-040

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (5-6)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-040** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-040** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	12000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	49000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	150		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	17000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	17000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	9300		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	43000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-040** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-040** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-040

Order: 93935
Page: 198 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (5-6)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-040A **Matrix: Soil/Solid**
Description: SB-37 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	310	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-040

Order: 93935
Page: 199 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (5-6)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-040A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	62	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-040** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-37 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

1914 Holloway Drive
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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-040

Order: 93935
Page: 200 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (5-6)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-040 **Matrix: Soil/Solid**
Description: SB-37 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Holt, MI 48842
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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-040

Order: 93935
 Page: 201 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (5-6)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-040 **Matrix: Soil/Solid**
Description: SB-37 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-041

Order: 93935
 Page: 202 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (10-11)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-041** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-041** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	54000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	120		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	7800		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	300		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	42000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-041** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-041** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-041

Order: 93935
 Page: 203 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (10-11)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-041A** Matrix: **Soil/Solid**
 Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
10. n-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
21. Dibromochloromethane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-041

Order: 93935
Page: 204 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (10-11)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-041A** Matrix: **Soil/Solid**
Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
40. Methylene Chloride	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
45. Styrene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
48. Tetrachloroethene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
53. Trichloroethene	U		µg/kg	66	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	130	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05B	12/06/19	VJ19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-041** Matrix: **Soil/Solid**
Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-041

Order: 93935
 Page: 205 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (10-11)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-041** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-37 (10-11)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-041

Order: 93935
Page: 206 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (10-11)	Chain of Custody: 183688
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-041 **Matrix: Soil/Solid**
Description: SB-37 (10-11)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-042

Order: 93935
 Page: 207 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (5-6)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	21		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	21000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	79000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	56		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	25000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	21000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	16000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	360		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	56000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/05/19	PS19L05B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-042

Order: 93935
 Page: 208 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (5-6)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-042A** Matrix: **Soil/Solid**
 Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	160	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	78	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	78	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	78	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-042

Order: 93935
 Page: 209 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (5-6)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-042A** Matrix: **Soil/Solid**
 Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	78	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	300	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07A	12/07/19	VJ19L07A	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	55	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-042

Order: 93935
Page: 210 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (5-6)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-042 **Matrix: Soil/Solid**
Description: SB-38 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-042

Order: 93935
 Page: 211 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (5-6)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-042** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-38 (5-6)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-043

Order: 93935
 Page: 212 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (14-15)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-043** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-38 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-043** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-38 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7700		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	43000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	130		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	14000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	7200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	310		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	44000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-043** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-38 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.7	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-043** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-38 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-043

Order: 93935
Page: 213 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (14-15)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-043A **Matrix: Soil/Solid**
Description: SB-38 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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Cadillac, MI 49601

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F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-043

Order: 93935
Page: 214 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (14-15)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-043A **Matrix: Soil/Solid**
Description: SB-38 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	44	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-043 **Matrix: Soil/Solid**
Description: SB-38 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-043

Order: 93935
Page: 215 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (14-15)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-043 **Matrix: Soil/Solid**
Description: SB-38 (14-15)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-043

Order: 93935
 Page: 216 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (14-15)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-043** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-38 (14-15)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-044

Order: 93935
 Page: 217 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (2-3)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-044** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-044** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	3800		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	29000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	190		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	5300		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	5500		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	7800		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	380		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	20000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-044** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.5	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-044** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-044

Order: 93935
Page: 218 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (2-3)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-044A **Matrix: Soil/Solid**
Description: SB-39 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-044

Order: 93935
Page: 219 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (2-3)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-044A** Matrix: **Soil/Solid**
Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-044** Matrix: **Soil/Solid**
Description: **SB-39 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-044

Order: 93935
Page: 220 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (2-3)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-044 **Matrix: Soil/Solid**
Description: SB-39 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-044

Order: 93935
 Page: 221 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (2-3)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-044 **Matrix: Soil/Solid**
Description: SB-39 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-045

Order: 93935
 Page: 222 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-045** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-045** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6800		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	51000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	110		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	16000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	15000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	7300		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	U		µg/kg	200	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	42000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-045** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.0	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-045** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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 11766 E. Grand River
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Holt, MI 48842
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T: (517) 699-0345
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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-045

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-045A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	65	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	65	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-045

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-045A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	65	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	45	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-045** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-045

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-045 **Matrix: Soil/Solid**
Description: SB-39 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Brighton, MI 48116
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-045

Order: 93935
Page: 226 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-39 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-045** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-39 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-046

Order: 93935
 Page: 227 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (1-2)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-046** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-40 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-046** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-40 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5000		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
2. Barium	36000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
3. Cadmium	140		µg/kg	50	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
4. Chromium	14000		µg/kg	500	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
5. Copper	9200		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
6. Lead	6400		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
7. Selenium	8600		µg/kg	2000	200	12/04/19	PT19L04C	12/04/19	T419L04A	VO
8. Silver	U		µg/kg	100	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO
9. Zinc	25000		µg/kg	1000	20	12/04/19	PT19L04C	12/04/19	T419L04A	VO

Mercury by CVAAS Aliquot ID: **93935-046** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-40 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.3	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-046** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-40 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-046

Order: 93935
Page: 228 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (1-2)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-046A **Matrix: Soil/Solid**
Description: SB-40 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-046

Order: 93935
Page: 229 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (1-2)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-046A **Matrix: Soil/Solid**
Description: SB-40 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-046 **Matrix: Soil/Solid**
Description: SB-40 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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T: (231) 775-8368

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-046

Order: 93935
Page: 230 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (1-2)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-046 **Matrix: Soil/Solid**
Description: SB-40 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-046

Order: 93935
 Page: 231 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (1-2)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-046 **Matrix: Soil/Solid**
Description: SB-40 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-047

Order: 93935
 Page: 232 of 262
 Date: 12/12/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-40 (9-10)** Chain of Custody: **183684**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **15:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-047** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-047** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8600		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	65000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	180		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	17000		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	14000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	8200		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	270		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	46000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-047** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.7	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-047** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-047

Order: 93935
 Page: 233 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (9-10)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-047A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-047

Order: 93935
 Page: 234 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (9-10)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-047A** Matrix: **Soil/Solid**
 Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	46	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-047** Matrix: **Soil/Solid**
 Description: **SB-40 (9-10)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-047

Order: 93935
Page: 235 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (9-10)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-047 **Matrix: Soil/Solid**
Description: SB-40 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-047

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-40 (9-10)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:10

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-047 **Matrix: Soil/Solid**
Description: SB-40 (9-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Holt, MI 48842
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 Cadillac, MI 49601

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-048

Order: 93935
 Page: 237 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (4-5)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-048** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-41 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	18		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-048** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-41 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7200		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	66000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	250		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	12000		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	17000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	17000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	590		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	54000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-048** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-41 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	9.0	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-048** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-41 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-048

Order: 93935
Page: 238 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (4-5)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-048A **Matrix: Soil/Solid**
Description: SB-41 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	81		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	210		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-048

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (4-5)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-048A **Matrix: Soil/Solid**
Description: SB-41 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	72	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	280	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	51	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	360		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	400		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-048 **Matrix: Soil/Solid**
Description: SB-41 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
4. Anthracene	670		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
6. Benzo(a)anthracene	1100		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-048

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (4-5)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-048 **Matrix: Soil/Solid**
Description: SB-41 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	930		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
8. Benzo(b)fluoranthene	1300		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
9. Benzo(ghi)perylene	560		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
10. Benzo(k)fluoranthene	480		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
23. Chrysene	1100		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
33. Fluoranthene	2800		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
34. Fluorene	400		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
39. Indeno(1,2,3-cd)pyrene	580		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA

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 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-048

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (4-5)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-048** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8270E** Description: **SB-41 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
45. Naphthalene	390		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
58. Phenanthrene	2400		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
60. Pyrene	2200		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/09/19	S619L09A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-049

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-049** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-049** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	11000		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	47000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	100		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	15000		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	14000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	7600		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	U		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	46000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-049** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.6	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-049** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-049

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-049A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	370		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	150		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	100		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-049

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-049A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	44	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-049** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-41 (6-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-049

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-049 **Matrix: Soil/Solid**
Description: SB-41 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-049

Order: 93935
Page: 246 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-41 (6-7)	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:40

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-049 **Matrix: Soil/Solid**
Description: SB-41 (6-7)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-050

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-04	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-050** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-050** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8100		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	48000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	120		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	17000		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	14000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	7100		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	U		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	44000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-050** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.4	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-050** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Holt, MI 48842
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T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-050

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-04	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-050A** Matrix: **Soil/Solid**
 Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	360		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	150		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-050

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-04	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-050A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	63	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	44	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93935-050** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **DUP-04**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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 Cadillac, MI 49601

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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-050

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-04	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-050 **Matrix: Soil/Solid**
Description: DUP-04

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-050

Order: 93935
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Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: DUP-04	Chain of Custody: 183684
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:00

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-050 **Matrix: Soil/Solid**
Description: DUP-04

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-051

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (1-2)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-051** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-051** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	4300		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	39000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	170		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	9200		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	5200		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	6000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	280		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	25000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-051** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-051** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-051

Order: 93935
Page: 253 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (1-2)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-051A **Matrix: Soil/Solid**
Description: SB-42 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	130	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-051

Order: 93935
 Page: 254 of 262
 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (1-2)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93935-051A** Matrix: **Soil/Solid**
 Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	66	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	46	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93935-051** Matrix: **Soil/Solid**
 Description: **SB-42 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-051

Order: 93935
Page: 255 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (1-2)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-051 **Matrix: Soil/Solid**
Description: SB-42 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-051

Order: 93935
Page: 256 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (1-2)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-051 **Matrix: Soil/Solid**
Description: SB-42 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-052

Order: 93935
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 Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (2-3)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93935-052** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB-42 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/03/19	MC191203	12/04/19	MC191203	NE

Michigan 10 Elements by ICP/MS Aliquot ID: **93935-052** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB-42 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8600		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
2. Barium	72000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
3. Cadmium	120		µg/kg	50	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
4. Chromium	18000		µg/kg	500	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
5. Copper	12000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
6. Lead	9000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
7. Selenium	300		µg/kg	200	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
8. Silver	U		µg/kg	100	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO
9. Zinc	40000		µg/kg	1000	20	12/05/19	PT19L05B	12/05/19	T419L05A	VO

Mercury by CVAAS Aliquot ID: **93935-052** Matrix: **Soil/Solid**
 Method: **EPA 7471B** Description: **SB-42 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	8.8	12/04/19	PM19L04C	12/04/19	M719L04A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93935-052** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB-42 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-052

Order: 93935
Page: 258 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (2-3)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93935-052A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-42 (2-3)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
3. Benzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
10. n-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
21. Dibromochloromethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
30. cis-1,2-Dichloroethene	U		µg/kg	68	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
31. trans-1,2-Dichloroethene	U		µg/kg	68	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
34. trans-1,3-Dichloropropene	U		µg/kg	68	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-052

Order: 93935
Page: 259 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (2-3)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93935-052A **Matrix: Soil/Solid**
Description: SB-42 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
40. Methylene Chloride	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
42. MTBE	U		µg/kg	250	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
45. Styrene	U		µg/kg	68	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
48. Tetrachloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
49. Toluene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/kg	260	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
53. Trichloroethene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/07/19	VJ19L07B	12/08/19	VJ19L07B	JLM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
59. Vinyl Chloride	U		µg/kg	48	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VI19L05B	12/06/19	VI19L05B	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-052 **Matrix: Soil/Solid**
Description: SB-42 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-052

Order: 93935
Page: 260 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (2-3)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-052 **Matrix: Soil/Solid**
Description: SB-42 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93935
Laboratory Sample Number: 93935-052

Order: 93935
Page: 261 of 262
Date: 12/12/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-42 (2-3)	Chain of Custody: 183686
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93935-052 **Matrix: Soil/Solid**
Description: SB-42 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/07/19	S619L06B	BDA

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
- E1** : The reported value is estimated due to the presence of interference.
- F-** : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
- F+** : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
- G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.
- J+** : The result is an estimated quantity, but the result may be biased high.
- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
- V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.
- Y1** : Sample was diluted due to a sample matrix issue.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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Cadillac, MI 49601

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Client Name: DLZ Michigan Inc.				PARAMETERS												Matrix Code				Deliverables					
Contact Person: Dan McNeely				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOL's	SVOCS	PCBs	MI 10 Metals										HOLD SAMPLE	S	Soil	GW	Ground Water		Level 2
Project Name/ Number: DDOT Codidge																				A	Air	SW	Surface Water		Level 3
Email distribution list: dmcneely@dlz.com dbrown@dlz.com																				O	Oil	ww	Waste Water		Level 4
Quote#																				P	Wipe	X	Other: Specify		EDD
Purchase Order#																				Remarks:					
Date	Time	Sample #	Client Sample Descriptor																						
11-25-19	1510		SB-28 (4-5)	S	3	X	X	X	X																
11-25-19	1515		SB-28 (12-13)	S	3	X	X	X	X																
Received By Lab NOV 27 2019 Initials: <u>JS</u>																									
Comments:																									
Sampled/Relinquished By: <i>[Signature]</i>				Date/Time	Received By: <i>[Signature]</i>																				
Relinquished By: <i>[Signature]</i>				Date/Time	Received By: <i>[Signature]</i>																				
Relinquished By: <i>[Signature]</i>				Date/Time	Received By Laboratory: <i>[Signature]</i>																				
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																		LAB USE ONLY							
<input type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____																		Fibertec project number: 93935 Temperature upon receipt at Lab: 2.4°C							
Please see back for terms and conditions																									

Received
On Ice

Client Name: DLZ Michigan Inc		PARAMETERS		Matrix Code		Deliverables	
Contact Person: Dan McNeely		VOCs SVOCs PCBs MI 10 Metals		S Soil		Level 2	
Project Name/ Number: DDOT Coolidge				A Air		Level 3	
Email distribution list: dmcneely@dlz.com dbrown@dlz.com				O Oil		Level 4	
Quote#				P Wipe		EDD	
Purchase Order#		HOLD SAMPLE		GW Ground Water			
Date		Time		SW Surface Water			
Sample #		Client Sample Descriptor		ww Waste Water			
				X Other: Specify			
				Remarks:			
11-26-19		0955		SB-33 (3-4)			
11-26-19		1000		SB-33 (7-8)			
11-26-19		1045		SB-34 (1-2)			
11-26-19		1050		SB-34 (9-10)			
11-26-19		1115		SB-35 (1-2)			
11-26-19		1120		SB-35 (14-15)			
11-26-19		1155		SB-36 (3-4)		Received By Lab	
11-26-19		1205		SB-36 (14-15)		NOV 27 2019	
11-26-19		1245		SB-37 (5-6)		Initials: <u>JS</u>	
11-26-19		1250		SB-37 (10-11)			

Comments:

Sampled/Relinquished By: Steph McNeely	Date/Time: 11/26/19 1700	Received By: Phil Moore Fibertec
Relinquished By: Phil Moore	Date/Time:	Received By:
Relinquished By: Phil Moore	Date/Time: 11/27/19 1352	Received By: Phil Moore 11/27/19 11:35

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

LAB USE ONLY

Fibertec project number: **93935**

Temperature upon receipt at Lab: **2.40C**

Received On Ice

1 bus. day 2 bus. days 3 bus. days 4 bus. days

5-7 bus. days (standard) Other (specify time/date requirement):

Client Name: DLZ Michigan Inc				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code			Deliverables	
Contact Person: Dan McNeely						VOLs SWOCs PCBs MI 10 Metals	HOLD SAMPLE	S	Soil	GW	Ground Water							Level 2		
Project Name/ Number: DDOT Coolidge								A	Air	SW	Surface Water							Level 3		
Email distribution list: dmcneely@dlz.com dbrown@dlz.com								O	Oil	WW	Waste Water							Level 4		
Quote#								P	Wipe	X	Other: Specify							EDD		
Purchase Order#								Remarks:												
Date								Time				Sample #				Client Sample Descriptor				
11-26-19				1620								SB-42 (1-2)				S 2 X X X X				
11-26-19				1630								SB-42 (2-3)				S 2 X X X X				

Received By Lab

NOV 27 2019

Initials: JS

Comments:

Sampled/Relinquished By: Stephen [Signature]	Date/Time: 11/26/19 1700	Received by: Paul Moore FIBERTEC
Relinquished by: Paul Moore	Date/Time:	Received by:
Relinquished By: Paul Moore	Date/Time: 11/27/19 1352	Received By Laboratory: Paul Moore 11/27/19 11:35

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

LAB USE ONLY

1 bus. day
 2 bus. days
 3 bus. days
 4 bus. days
 5-7 bus. days (standard)
 Other (specify time/date requirement): _____

Fibertec project number: **93935**

Temperature upon receipt at Lab: **2.90C**

Received
On Ice



Friday, December 06, 2019

Fibertec Project Number: 93892
Project Identification: DDOT Coolidge /
Submittal Date: 11/22/2019

Mr. Dan McNeely
DLZ Michigan, Inc. - Lansing
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. McNeely,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Rikki Lott at 4:35 PM, Dec 06, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-001

Order: 93892
 Page: 2 of 37
 Date: 12/06/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-03 (0-2 Comp)** Chain of Custody: **183697**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/21/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-001** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-03 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-001** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-03 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	15000		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	210000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	8500		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	32000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	1700000		µg/kg	2000	400	12/02/19	PT19L02E	12/03/19	T419L03C	VO
6. Selenium	830		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	990		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-001** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-03 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	220		µg/kg	50	9.1	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-001** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-03 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/05/19	SF19L05A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-001

Order: 93892
 Page: 3 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-001A** Matrix: **Soil/Solid**
 Description: **SB-03 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/kg	3200	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 2. Acrylonitrile	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
3. Benzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
4. Bromobenzene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
5. Bromochloromethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
6. Bromodichloromethane	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
7. Bromoform	U	Y1	µg/kg	640	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
8. Bromomethane	U	Y1	µg/kg	640	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
9. 2-Butanone	U	Y1	µg/kg	750	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
10. n-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
11. sec-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
12. tert-Butylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
13. Carbon Disulfide	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
14. Carbon Tetrachloride	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
15. Chlorobenzene	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
16. Chloroethane	U	Y1	µg/kg	640	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
17. Chloroform	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
18. Chloromethane	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
19. 2-Chlorotoluene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
21. Dibromochloromethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
22. Dibromomethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
23. 1,2-Dichlorobenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
24. 1,3-Dichlorobenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
25. 1,4-Dichlorobenzene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
26. Dichlorodifluoromethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
27. 1,1-Dichloroethane	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
28. 1,2-Dichloroethane	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
29. 1,1-Dichloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
30. cis-1,2-Dichloroethene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
31. trans-1,2-Dichloroethene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
32. 1,2-Dichloropropane	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
33. cis-1,3-Dichloropropene	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
34. trans-1,3-Dichloropropene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
35. Ethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
36. Ethylene Dibromide	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
37. 2-Hexanone	U	Y1	µg/kg	2500	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

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 T: (231) 775-8368

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 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-001

Order: 93892
Page: 4 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93892-001A **Matrix: Soil/Solid**
Description: SB-03 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
39. 4-Methyl-2-pentanone	U	Y1	µg/kg	2500	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
40. Methylene Chloride	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 41. 2-Methylnaphthalene	U	Y1	µg/kg	1300	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
42. MTBE	U	Y1	µg/kg	250	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
43. Naphthalene	390	Y1	µg/kg	330	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
44. n-Propylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
45. Styrene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
48. Tetrachloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
49. Toluene	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
50. 1,2,4-Trichlorobenzene	U	Y1	µg/kg	1200	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
51. 1,1,1-Trichloroethane	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
52. 1,1,2-Trichloroethane	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
53. Trichloroethene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
54. Trichlorofluoromethane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
55. 1,2,3-Trichloropropane	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
57. 1,2,4-Trimethylbenzene	210	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
58. 1,3,5-Trimethylbenzene	U	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
59. Vinyl Chloride	U	Y1	µg/kg	230	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
60. m&p-Xylene	U	Y1	µg/kg	320	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
61. o-Xylene	270	Y1	µg/kg	160	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 62. Xylenes	U	Y1	µg/kg	480	4.0	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-001 **Matrix: Soil/Solid**
Description: SB-03 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	12000	V+	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
2. Acenaphthylene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
3. Aniline	U	L+	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
4. Anthracene	16000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
‡ 5. Azobenzene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
6. Benzo(a)anthracene	49000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-001

Order: 93892
Page: 5 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-001 **Matrix: Soil/Solid**
Description: SB-03 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	54000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
8. Benzo(b)fluoranthene	71000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
9. Benzo(ghi)perylene	43000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
10. Benzo(k)fluoranthene	26000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
11. Benzyl Alcohol	U	Y1	µg/kg	6300	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
12. Bis(2-chloroethoxy)methane	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
13. Bis(2-chloroethyl)ether	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
15. 4-Bromophenyl Phenylether	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
17. Di-n-butyl Phthalate	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
‡ 18. Carbazole	8000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
20. 2-Chloronaphthalene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
21. 2-Chlorophenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
22. 4-Chlorophenyl Phenylether	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
23. Chrysene	43000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
24. Dibenzo(a,h)anthracene	9300		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
25. Dibenzofuran	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	7500	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
27. Diethyl Phthalate	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
29. Dimethyl Phthalate	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	75000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
31. 2,4-Dinitrotoluene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
32. 2,6-Dinitrotoluene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
33. Fluoranthene	100000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
34. Fluorene	8000	V+	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
35. Hexachlorobenzene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
36. Hexachlorobutadiene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
38. Hexachloroethane	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
39. Indeno(1,2,3-cd)pyrene	46000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
40. Isophorone	U	L+	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	38000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
42. 2-Methylnaphthalene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-001

Order: 93892
Page: 6 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-03 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-001 **Matrix: Soil/Solid**
Description: SB-03 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
45. Naphthalene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
46. 2-Nitroaniline	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
47. 3-Nitroaniline	U	Y1	µg/kg	7400	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
48. 4-Nitroaniline	U	Y1	µg/kg	11000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
49. Nitrobenzene	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
50. 2-Nitrophenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
52. N-Nitrosodimethylamine	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
53. N-Nitrosodi-n-propylamine	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
54. N-Nitrosodiphenylamine	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
55. Di-n-octyl Phthalate	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	38000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
58. Phenanthrene	52000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
59. Phenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
60. Pyrene	94000		µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
61. Pyridine	U	Y1	µg/kg	19000	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	7500	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
63. 2,4,6-Trichlorophenol	U	Y1	µg/kg	3800	100	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-002

Order: 93892
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 Date: 12/06/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-05 (0-2 Comp)** Chain of Custody: **183697**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/21/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **11:25**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-002** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	17		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-002** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9900		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	68000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	300		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	18000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	11000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	310		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-002** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	54		µg/kg	50	8.9	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-002** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-002

Order: 93892
Page: 8 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-002A** Matrix: **Soil/Solid**
Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	140	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	72	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	72	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-002

Order: 93892
Page: 9 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-002A** Matrix: **Soil/Solid**
Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	72	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	270	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93892-002** Matrix: **Soil/Solid**
Description: **SB-05 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-002

Order: 93892
Page: 10 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-002 **Matrix: Soil/Solid**
Description: SB-05 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-002

Order: 93892
Page: 11 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-05 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-002 **Matrix: Soil/Solid**
Description: SB-05 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
59. Phenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-003

Order: 93892
 Page: 12 of 37
 Date: 12/06/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-08 (0-2 Comp)** Chain of Custody: **183697**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/21/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **16:35**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-003** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-003** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9400		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	37000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	290		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	16000		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	87000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	190		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-003** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-003

Order: 93892
 Page: 13 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93892-003A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	6700	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 2. Acrylonitrile	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
3. Benzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
4. Bromobenzene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
5. Bromochloromethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
6. Bromodichloromethane	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
7. Bromoform	U		µg/kg	1300	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
8. Bromomethane	U		µg/kg	1300	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
9. 2-Butanone	U		µg/kg	1300	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
10. n-Butylbenzene	9500		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
11. sec-Butylbenzene	5800	E1	µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
12. tert-Butylbenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
13. Carbon Disulfide	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
14. Carbon Tetrachloride	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
15. Chlorobenzene	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
16. Chloroethane	U		µg/kg	1300	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
17. Chloroform	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
18. Chloromethane	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
19. 2-Chlorotoluene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
21. Dibromochloromethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
22. Dibromomethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
23. 1,2-Dichlorobenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
24. 1,3-Dichlorobenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
25. 1,4-Dichlorobenzene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
26. Dichlorodifluoromethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
27. 1,1-Dichloroethane	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
28. 1,2-Dichloroethane	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
29. 1,1-Dichloroethene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
30. cis-1,2-Dichloroethene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
31. trans-1,2-Dichloroethene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
32. 1,2-Dichloropropane	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
33. cis-1,3-Dichloropropene	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
34. trans-1,3-Dichloropropene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
35. Ethylbenzene	650		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
36. Ethylene Dibromide	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
37. 2-Hexanone	U		µg/kg	3400	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-003

Order: 93892
Page: 14 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93892-003A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	1600		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
39. 4-Methyl-2-pentanone	U		µg/kg	3400	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
40. Methylene Chloride	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 41. 2-Methylnaphthalene	58000		µg/kg	2700	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
42. MTBE	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
43. Naphthalene	26000		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
44. n-Propylbenzene	4100		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
45. Styrene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
48. Tetrachloroethene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
49. Toluene	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
50. 1,2,4-Trichlorobenzene	U		µg/kg	2600	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
51. 1,1,1-Trichloroethane	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
52. 1,1,2-Trichloroethane	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
53. Trichloroethene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
54. Trichlorofluoromethane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
55. 1,2,3-Trichloropropane	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
57. 1,2,4-Trimethylbenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
58. 1,3,5-Trimethylbenzene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
59. Vinyl Chloride	U		µg/kg	470	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
60. m&p-Xylene	U		µg/kg	670	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
61. o-Xylene	U		µg/kg	340	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB
‡ 62. Xylenes	U		µg/kg	1000	10	11/27/19	VI19K27B	11/28/19	VI19K27B	ANB

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93892-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-08 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
6. Benzo(a)anthracene	480	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-003

Order: 93892
Page: 15 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-003 **Matrix: Soil/Solid**
Description: SB-08 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	570	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
8. Benzo(b)fluoranthene	760	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
9. Benzo(ghi)perylene	430	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
23. Chrysene	460	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
25. Dibenzofuran	570	V+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
33. Fluoranthene	1100	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
34. Fluorene	620	V+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
39. Indeno(1,2,3-cd)pyrene	460	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	V-	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
42. 2-Methylnaphthalene	12000		µg/kg	770	20	12/03/19	PS19L03G	12/05/19	SJ19L05A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-003

Order: 93892
 Page: 16 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-08 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/21/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 16:35

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-003 **Matrix: Soil/Solid**
Description: SB-08 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
45. Naphthalene	5700	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
58. Phenanthrene	1200	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
60. Pyrene	930	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-004

Order: 93892
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 Date: 12/06/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-09 (0-2 Comp)** Chain of Custody: **183697**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/22/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **07:50**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-004** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-004** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6700		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	64000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	710		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	9600		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	110000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	1100		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-004** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-004** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-004

Order: 93892
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Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93892-004A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	100	E1	µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	75	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	75	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	75	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-004

Order: 93892
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Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-004A** Matrix: **Soil/Solid**
Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	870		µg/kg	330	1.0	12/02/19	VI19L02A	12/02/19	VI19L02A	JMF
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	75	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	290	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	260		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	100		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	53	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93892-004** Matrix: **Soil/Solid**
Description: **SB-09 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
4. Anthracene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-004

Order: 93892
 Page: 20 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-004 **Matrix: Soil/Solid**
Description: SB-09 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
8. Benzo(b)fluoranthene	340	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
9. Benzo(ghi)perylene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
23. Chrysene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
28. 2,4-Dimethylphenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
33. Fluoranthene	580	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
34. Fluorene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	V-	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
42. 2-Methylnaphthalene	590	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-004

Order: 93892
Page: 21 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-09 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 07:50

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-004 **Matrix: Soil/Solid**
Description: SB-09 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
45. Naphthalene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
57. Pentachlorophenol	U	G+	µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
58. Phenanthrene	380	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
59. Phenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
60. Pyrene	500	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
61. Pyridine	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
62. 2,4,5-Trichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-005

Order: 93892
Page: 22 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-005** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-005** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	920		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	7600		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	U		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	2900		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	2400		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-005** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.4	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-005** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-005

Order: 93892
 Page: 23 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-005A** Matrix: **Soil/Solid**
 Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	130	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	65	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	65	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-005

Order: 93892
 Page: 24 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-005A** Matrix: **Soil/Solid**
 Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	65	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	46	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: **93892-005** Matrix: **Soil/Solid**
 Description: **SB-13 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-005

Order: 93892
Page: 25 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93892-005 **Matrix: Soil/Solid**
Description: SB-13 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
12. Bis(2-chloroethoxy)methane	U	F+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-005

Order: 93892
 Page: 26 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-13 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 11:45

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93892-005 **Matrix: Soil/Solid**
Description: SB-13 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
59. Phenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
61. Pyridine	U	F+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-006

Order: 93892
 Page: 27 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-006** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-006** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	2900		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	23000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	130		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	7500		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	4000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	U		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-006** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	8.7	12/02/19	PM19L02B	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-006** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-006

Order: 93892
 Page: 28 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-006A** Matrix: **Soil/Solid**
 Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	60	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	60	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	60	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-006

Order: 93892
Page: 29 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93892-006A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	60	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	42	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93892-006** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-16 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
2. Acenaphthylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
4. Anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-006

Order: 93892
Page: 30 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-006 **Matrix: Soil/Solid**
Description: SB-16 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
‡ 18. Carbazole	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
23. Chrysene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
25. Dibenzofuran	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
33. Fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
34. Fluorene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
38. Hexachloroethane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	V-	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
43. 2-Methylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-006

Order: 93892
 Page: 31 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-16 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-006 **Matrix: Soil/Solid**
Description: SB-16 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
45. Naphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
49. Nitrobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
57. Pentachlorophenol	U		µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
58. Phenanthrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
59. Phenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
60. Pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
61. Pyridine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	SJ19L04A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-007

Order: 93892
 Page: 32 of 37
 Date: 12/06/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-17 (0-2 Comp)** Chain of Custody: **183697**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/22/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **15:20**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93892-007** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	11/27/19	MC191127	12/02/19	MC191127	JBA

RCRA Elements by ICP/MS Aliquot ID: **93892-007** Matrix: **Soil/Solid**
Method: EPA 0200.2/EPA 6020A Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	4700		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
2. Barium	31000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
3. Cadmium	400		µg/kg	50	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
4. Chromium	8800		µg/kg	500	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
5. Lead	15000		µg/kg	1000	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO
6. Selenium	350		µg/kg	200	20	12/02/19	PT19L02E	12/02/19	T419L02A	VO
7. Silver	U		µg/kg	100	20	12/02/19	PT19L02E	12/02/19	T419L02B	VO

Mercury by CVAAS Aliquot ID: **93892-007** Matrix: **Soil/Solid**
Method: EPA 7471B Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	9.2	12/02/19	PM19L02C	12/02/19	M719L02A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93892-007** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/03/19	PS19L03B	12/04/19	SA19L04A	RDK

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-007

Order: 93892
 Page: 33 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-007A** Matrix: **Soil/Solid**
 Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
3. Benzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
4. Bromobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
5. Bromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
6. Bromodichloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
7. Bromoform	U		µg/kg	120	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
8. Bromomethane	U		µg/kg	200	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
9. 2-Butanone	U		µg/kg	750	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
10. n-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
11. sec-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
12. tert-Butylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
13. Carbon Disulfide	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
14. Carbon Tetrachloride	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
15. Chlorobenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
16. Chloroethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
17. Chloroform	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
18. Chloromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
19. 2-Chlorotoluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
21. Dibromochloromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
22. Dibromomethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
30. cis-1,2-Dichloroethene	U		µg/kg	61	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
31. trans-1,2-Dichloroethene	U		µg/kg	61	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
34. trans-1,3-Dichloropropene	U		µg/kg	61	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
35. Ethylbenzene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
36. Ethylene Dibromide	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
37. 2-Hexanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-007

Order: 93892
 Page: 34 of 37
 Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93892-007A** Matrix: **Soil/Solid**
 Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
40. Methylene Chloride	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
42. MTBE	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
43. Naphthalene	U		µg/kg	330	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
44. n-Propylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
45. Styrene	U		µg/kg	61	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
48. Tetrachloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
49. Toluene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
53. Trichloroethene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
54. Trichlorofluoromethane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
59. Vinyl Chloride	U		µg/kg	43	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
60. m&p-Xylene	U		µg/kg	100	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
61. o-Xylene	U		µg/kg	50	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM
‡ 62. Xylenes	U		µg/kg	150	1.0	11/27/19	VI19K27B	11/28/19	VI19K27B	CM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93892-007** Matrix: **Soil/Solid**
 Description: **SB-17 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-007

Order: 93892
Page: 35 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-007 **Matrix: Soil/Solid**
Description: SB-17 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Cadillac, MI 49601

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93892
Laboratory Sample Number: 93892-007

Order: 93892
Page: 36 of 37
Date: 12/06/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-17 (0-2 Comp)	Chain of Custody: 183697
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/22/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 15:20

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93892-007 **Matrix: Soil/Solid**
Description: SB-17 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
51. 4-Nitrophenol	U	L+	µg/kg	830	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
59. Phenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
61. Pyridine	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/03/19	PS19L03G	12/04/19	S619L04A	BDA

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- Y1** :
- E1** : The reported value is estimated due to the presence of interference.
- F+** : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
- G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.
- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
- V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.
- Y1** : Sample was diluted due to a sample matrix issue.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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Cadillac, MI 49601

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
 Page: 2 of 32
 Date: 12/10/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-32 (0-2 Comp)** Chain of Custody: **183694**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:25**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93946-001** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/04/19	MC191204	12/05/19	MC191204	DB

Toxicity Characteristic Leaching Procedure (TCLP) Aliquot ID: **93946-001** Matrix: **Soil/Solid**
Method: EPA 1311 Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	12/4/2019		NA	NA	1.0	NA	NA	12/04/19	NA	CMB

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93946-001** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-001A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/kg	1400	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U	Y1	µg/kg	1400	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
 Page: 3 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93946-001A **Matrix: Soil/Solid**
Description: SB-32 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U	Y1	µg/kg	250	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/kg	1400	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U	Y1	µg/kg	2500	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
38. Isopropylbenzene	U	Y1	µg/kg	250	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/kg	2500	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U	Y1	µg/kg	250	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Holt, MI 48842
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 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
Page: 4 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93946-001A** Matrix: **Soil/Solid**
Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/kg	250	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/kg	540	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U	Y1	µg/kg	270	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U	Y1	µg/kg	140	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U	Y1	µg/kg	410	4.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93946-001** Matrix: **Soil/Solid**
Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
3. Aniline	U	L+	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
4. Anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
7. Benzo(a)pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
 Page: 5 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-001 **Matrix: Soil/Solid**
Description: SB-32 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
23. Chrysene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
25. Dibenzofuran	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	390	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
33. Fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
34. Fluorene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
45. Naphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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 Cadillac, MI 49601

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 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
 Page: 6 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-001 **Matrix: Soil/Solid**
Description: SB-32 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	1900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
58. Phenanthrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
59. Phenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
60. Pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
61. Pyridine	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	390	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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 T: (231) 775-8368

F: (517) 699-0388
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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-001

Order: 93946
Page: 7 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-32 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP RCRA-8 Metals by ICP-MS Aliquot ID: **93946-001B** Matrix: **TCLP Extract**
Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
2. Barium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
3. Cadmium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
4. Chromium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
5. Lead	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
6. Selenium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
7. Silver	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO

TCLP Mercury Aliquot ID: **93946-001B** Matrix: **TCLP Extract**
Method: **EPA 7470A** Description: **SB-32 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		mg/L	0.050	8.0	12/05/19	PM19L05C	12/05/19	M719L05A	JLH

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

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 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93946-002** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/04/19	MC191204	12/05/19	MC191204	DB

Toxicity Characteristic Leaching Procedure (TCLP) Aliquot ID: **93946-002** Matrix: **Soil/Solid**
Method: EPA 1311 Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	12/4/2019		NA	NA	1.0	NA	NA	12/04/19	NA	CMB

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93946-002** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-002A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

Order: 93946
Page: 9 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93946-002A **Matrix: Soil/Solid**
Description: SB-37 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	310	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

Order: 93946
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 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-002A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	61	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	120	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93946-002** Matrix: **Soil/Solid**
 Method: **EPA 3550C/EPA 8270E** Description: **SB-37 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
3. Aniline	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
4. Anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

Order: 93946
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93946-002 **Matrix: Soil/Solid**
Description: SB-37 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
23. Chrysene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
34. Fluorene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
37. Hexachlorocyclopentadiene	U	V-	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
40. Isophorone	U	L+	µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

Order: 93946
Page: 12 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: 93946-002 **Matrix: Soil/Solid**
Description: SB-37 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
59. Phenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
60. Pyrene	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
61. Pyridine	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
62. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA
63. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/06/19	PS19L06F	12/06/19	S619L06B	BDA

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-002

Order: 93946
Page: 13 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-37 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 12:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP RCRA-8 Metals by ICP-MS	Aliquot ID: 93946-002B	Matrix: TCLP Extract
Method: EPA 3005A (Total Recoverable)/EPA 6020A	Description: SB-37 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
2. Barium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
3. Cadmium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
4. Chromium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
5. Lead	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
6. Selenium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
7. Silver	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO

TCLP Mercury	Aliquot ID: 93946-002B	Matrix: TCLP Extract
Method: EPA 7470A	Description: SB-37 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		mg/L	0.050	8.0	12/05/19	PM19L05C	12/05/19	M719L05A	JLH

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
 Page: 14 of 32
 Date: 12/10/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-38 (0-2 Comp)** Chain of Custody: **183694**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **13:55**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93946-003** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	17		%	1	1.0	12/04/19	MC191204	12/05/19	MC191204	DB

Toxicity Characteristic Leaching Procedure (TCLP) Aliquot ID: **93946-003** Matrix: **Soil/Solid**
Method: EPA 1311 Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	12/4/2019		NA	NA	1.0	NA	NA	12/04/19	NA	CMB

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93946-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-003A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
 Page: 15 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93946-003A** Matrix: **Soil/Solid**
 Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	350	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	720		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
Page: 16 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-003A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	70	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	140	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93946-003** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8270E Description: **SB-38 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
2. Acenaphthylene	720		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
3. Aniline	U	L+	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
4. Anthracene	800		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
6. Benzo(a)anthracene	3700		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
7. Benzo(a)pyrene	4300		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
8. Benzo(b)fluoranthene	6000		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
9. Benzo(ghi)perylene	2800		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
10. Benzo(k)fluoranthene	2100		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	200	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
Page: 17 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-003 **Matrix: Soil/Solid**
Description: SB-38 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
23. Chrysene	3100		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
24. Dibenzo(a,h)anthracene	720		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
25. Dibenzofuran	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	400	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	4000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
33. Fluoranthene	6200		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
34. Fluorene	U		µg/kg	340	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
39. Indeno(1,2,3-cd)pyrene	3100		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	2000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
45. Naphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-003 **Matrix: Soil/Solid**
Description: SB-38 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	2000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
58. Phenanthrene	2000		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
59. Phenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
60. Pyrene	5600		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
61. Pyridine	U	Y1	µg/kg	1000	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	400	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/07/19	SJ19L06A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-003

Order: 93946
Page: 19 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-38 (0-2 Comp)	Chain of Custody: 183694
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 13:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP RCRA-8 Metals by ICP-MS	Aliquot ID: 93946-003B	Matrix: TCLP Extract
Method: EPA 3005A (Total Recoverable)/EPA 6020A	Description: SB-38 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
2. Barium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
3. Cadmium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
4. Chromium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
5. Lead	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
6. Selenium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
7. Silver	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO

TCLP Mercury	Aliquot ID: 93946-003B	Matrix: TCLP Extract
Method: EPA 7470A	Description: SB-38 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		mg/L	0.050	8.0	12/05/19	PM19L05C	12/05/19	M719L05A	JLH

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
 Page: 20 of 32
 Date: 12/10/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-21 (0-2 Comp)** Chain of Custody: **183689**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **09:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93946-004** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/04/19	MC191204	12/05/19	MC191204	DB

Toxicity Characteristic Leaching Procedure (TCLP) Aliquot ID: **93946-004** Matrix: **Soil/Solid**
Method: EPA 1311 Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. TCLP Date	12/4/2019		NA	NA	1.0	NA	NA	12/04/19	NA	CMB

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93946-004** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/09/19	SF19L09A	RDK

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-004A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/kg	1000	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U		µg/kg	160	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U		µg/kg	160	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U		µg/kg	200	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U		µg/kg	750	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93946-004A** Matrix: **Soil/Solid**
Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	540	E1	µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	170	E1	µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U		µg/kg	160	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U		µg/kg	400	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	530		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
38. Isopropylbenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U		µg/kg	160	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	1700		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	1400		µg/kg	330	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	580		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Holt, MI 48842
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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
 Page: 22 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93946-004A** Matrix: **Soil/Solid**
 Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	140		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U		µg/kg	80	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U		µg/kg	160	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	420		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	1300		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	450		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U		µg/kg	40	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	630		µg/kg	100	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	370		µg/kg	50	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	1000		µg/kg	150	1.0	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93946-004** Matrix: **Soil/Solid**
 Description: **SB-21 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
2. Acenaphthylene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
3. Aniline	U	L+	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
4. Anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
6. Benzo(a)anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
7. Benzo(a)pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
8. Benzo(b)fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
9. Benzo(ghi)perylene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
10. Benzo(k)fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
13. Bis(2-chloroethyl)ether	U		µg/kg	190	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
Page: 23 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-004 **Matrix: Soil/Solid**
Description: SB-21 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 18. Carbazole	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
23. Chrysene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
25. Dibenzofuran	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	390	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
33. Fluoranthene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
34. Fluorene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
38. Hexachloroethane	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
42. 2-Methylnaphthalene	1100		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
43. 2-Methylphenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
45. Naphthalene	850	V+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
46. 2-Nitroaniline	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
47. 3-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
48. 4-Nitroaniline	U		µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
49. Nitrobenzene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
50. 2-Nitrophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
Page: 24 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-004 **Matrix: Soil/Solid**
Description: SB-21 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	1900	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
58. Phenanthrene	350		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
59. Phenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
60. Pyrene	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
61. Pyridine	U	Y1	µg/kg	970	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	390	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
63. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-004

Order: 93946
Page: 25 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-21 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 09:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP RCRA-8 Metals by ICP-MS	Aliquot ID: 93946-004C	Matrix: TCLP Extract
Method: EPA 3005A (Total Recoverable)/EPA 6020A	Description: SB-21 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
2. Barium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
3. Cadmium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
4. Chromium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
5. Lead	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
6. Selenium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
7. Silver	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO

TCLP Mercury	Aliquot ID: 93946-004C	Matrix: TCLP Extract
Method: EPA 7470A	Description: SB-21 (0-2 Comp)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		mg/L	0.050	8.0	12/05/19	PM19L05C	12/05/19	M719L05A	JLH

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Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
 Page: 26 of 32
 Date: 12/10/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-26 (0-2 Comp)** Chain of Custody: **183689**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **14:05**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **93946-005** Matrix: **Soil/Solid**
Method: ASTM D2216-10 Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/04/19	MC191204	12/05/19	MC191204	DB

Toxicity Characteristic Leaching Procedure (TCLP) Aliquot ID: **93946-005** Matrix: **Soil/Solid**
Method: EPA 1311 Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	12/4/2019		NA	NA	1.0	NA	NA	12/04/19	NA	CMB

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93946-005** Matrix: **Soil/Solid**
Method: EPA 3546/EPA 8082A Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/06/19	PS19L06H	12/06/19	SF19L06A	RDK

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **93946-005A** Matrix: **Soil/Solid**
Method: EPA 5035A/EPA 8260D Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/kg	5700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
3. Benzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
4. Bromobenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
5. Bromochloromethane	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
6. Bromodichloromethane	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
7. Bromoform	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
8. Bromomethane	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
9. 2-Butanone	U	Y1	µg/kg	5700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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Holt, MI 48842
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 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
Page: 27 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: 93946-005A **Matrix: Soil/Solid**
Description: SB-26 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
11. sec-Butylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
12. tert-Butylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
13. Carbon Disulfide	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
14. Carbon Tetrachloride	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
15. Chlorobenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
16. Chloroethane	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
17. Chloroform	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
18. Chloromethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
19. 2-Chlorotoluene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
21. Dibromochloromethane	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
22. Dibromomethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/kg	5700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
30. cis-1,2-Dichloroethene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
35. Ethylbenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
36. Ethylene Dibromide	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
37. 2-Hexanone	U	Y1	µg/kg	5700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
38. Isopropylbenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/kg	5700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
40. Methylene Chloride	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
42. MTBE	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
43. Naphthalene	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
44. n-Propylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
45. Styrene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
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 Date: 12/10/19

Client Identification: **DLZ Michigan, Inc. - Lansing** Sample Description: **SB-26 (0-2 Comp)** Chain of Custody: **183689**
 Client Project Name: **DDOT Coolidge** Sample No: Collect Date: **11/26/19**
 Client Project No: **NA** Sample Matrix: **Soil/Solid** Collect Time: **14:05**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: **93946-005A** Matrix: **Soil/Solid**
 Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
48. Tetrachloroethene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
49. Toluene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
52. 1,1,2-Trichloroethane	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
53. Trichloroethene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
54. Trichlorofluoromethane	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/kg	2300	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
59. Vinyl Chloride	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
60. m&p-Xylene	U	Y1	µg/kg	1100	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
61. o-Xylene	U	Y1	µg/kg	570	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF
‡ 62. Xylenes	U	Y1	µg/kg	1700	20	12/05/19	VJ19L05A	12/05/19	VJ19L05A	JMF

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: **93946-005** Matrix: **Soil/Solid**
 Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
2. Acenaphthylene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
3. Aniline	U	L+	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
4. Anthracene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 5. Azobenzene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
6. Benzo(a)anthracene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
7. Benzo(a)pyrene	610	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
8. Benzo(b)fluoranthene	720	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
9. Benzo(ghi)perylene	530	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
11. Benzyl Alcohol	U	G+	µg/kg	3300	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/kg	180	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
14. Bis(2-ethylhexyl)phthalate	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
 Page: 29 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-005 **Matrix: Soil/Solid**
Description: SB-26 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Butyl Benzyl Phthalate	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 18. Carbazole	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
19. 4-Chloro-3-methylphenol	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
20. 2-Chloronaphthalene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
21. 2-Chlorophenol	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
23. Chrysene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
25. Dibenzofuran	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
26. 2,4-Dichlorophenol	U	Y1	µg/kg	360	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
27. Diethyl Phthalate	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
28. 2,4-Dimethylphenol	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
29. Dimethyl Phthalate	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/kg	3600	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
33. Fluoranthene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
34. Fluorene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
35. Hexachlorobenzene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
36. Hexachlorobutadiene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
38. Hexachloroethane	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
39. Indeno(1,2,3-cd)pyrene	550	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
40. Isophorone	U	L+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/kg	1800	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
42. 2-Methylnaphthalene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
43. 2-Methylphenol	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/kg	660	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
45. Naphthalene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
46. 2-Nitroaniline	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
47. 3-Nitroaniline	U	G+	µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
48. 4-Nitroaniline	U	G+	µg/kg	830	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
49. Nitrobenzene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
50. 2-Nitrophenol	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
51. 4-Nitrophenol	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
 Page: 30 of 32
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3546/EPA 8270E

Aliquot ID: 93946-005 **Matrix: Soil/Solid**
Description: SB-26 (0-2 Comp)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
53. N-Nitrosodi-n-propylamine	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
57. Pentachlorophenol	U	Y1	µg/kg	1800	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
58. Phenanthrene	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
59. Phenol	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
60. Pyrene	890	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
61. Pyridine	U	Y1	µg/kg	910	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
62. 2,4,5-Trichlorophenol	U	Y1	µg/kg	360	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP
63. 2,4,6-Trichlorophenol	U	G+	µg/kg	330	5.0	12/06/19	PS19L06F	12/06/19	SJ19L06A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93946
Laboratory Sample Number: 93946-005

Order: 93946
Page: 31 of 32
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: SB-26 (0-2 Comp)	Chain of Custody: 183689
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP RCRA-8 Metals by ICP-MS Aliquot ID: **93946-005C** Matrix: **TCLP Extract**
Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
2. Barium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
3. Cadmium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
4. Chromium	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
5. Lead	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
6. Selenium	U		mg/L	0.20	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO
7. Silver	U		mg/L	1.0	20	12/05/19	PT19L05E	12/05/19	T419L05A	VO

TCLP Mercury Aliquot ID: **93946-005C** Matrix: **TCLP Extract**
Method: **EPA 7470A** Description: **SB-26 (0-2 Comp)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		mg/L	0.050	8.0	12/05/19	PM19L05C	12/05/19	M719L05A	JLH

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- E1** : The reported value is estimated due to the presence of interference.
- G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.
- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
- V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.
- Y1** : Sample was diluted due to a sample matrix issue.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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Client Name: DLZ Michigan Inc		MATRIX (SEE RIGHT CORNER FOR CODE) # OF CONTAINERS VOCs SVOCs PCBs MI 10 Metals		PARAMETERS										Matrix Code			Deliverables				
Contact Person: Dan McNeely				HOLD SAMPLE	S	Soil	GW	Ground Water											Level 2		
Project Name/ Number: DDOT Coolidge					A	Air	SW	Surface Water											Level 3		
Email distribution list: dmneely@dlz.com dbrown@dlz.com					O	Oil	WW	Waste Water											Level 4		
Quote#					P	Wipe	X	Other: Specify											EDD		
Purchase Order#		Remarks:																			
Date	Time	Sample #	Client Sample Descriptor																		
11-26-19	0925		SB-32 (0-2 Comp)		S	5	X	X	X	X											
11-26-19	1255		SB-37 (0-2 Comp)		S	5	X	X	X	X											
11-26-19	1355		SB-38 (0-2 Comp)		S	3	X	X	X	X											
Received By Lab NOV 27 2019 Initials: <u>JS</u>																					
Comments:																					
Sampled/Relinquished By: <u>Stephen J. Jensen</u>				Date/Time: <u>11/26/19 1700</u>				Received By: <u>Phil Moore Fibertec</u>													
Relinquished By: <u>Phil Moore</u>				Date/Time:				Received By: <u>Phil Moore</u>													
Relinquished By: <u>Phil Moore</u>				Date/Time: <u>11/27/19 1352</u>				Received By Laboratory: <u>Phil Moore</u>													
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY										LAB USE ONLY											
___ 1 bus. day		___ 2 bus. days		___ 3 bus. days		___ 4 bus. days		Fibertec project number: <u>93946</u>													
<input checked="" type="checkbox"/> 5-7 bus. days (standard)		Other (specify time/date requirement): _____																Temperature upon receipt at Lab: <u>2.4°C</u>		Received On Ice	
Please see back for terms and conditions																					



Tuesday, December 10, 2019

Fibertec Project Number: 93929
Project Identification: DDOT Coolidge /
Submittal Date: 11/26/2019

Mr. Dan McNeely
DLZ Michigan, Inc. - Lansing
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. McNeely,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Sharon Rakow at 4:12 PM, Dec 10, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-001

Order: 93929
 Page: 2 of 17
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-20 (2-7)	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 09:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93929-001A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
2. Barium	U		µg/L	100	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
4. Chromium	U		µg/L	10	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
5. Copper	U		µg/L	4.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
7. Selenium	35		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
8. Silver	U		µg/L	0.20	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
9. Zinc	U		µg/L	50	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO

Mercury by CVAAS, Total Aliquot ID: **93929-001A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/03/19	PM19L03B	12/03/19	M719L03B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93929-001** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-001B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-001

Order: 93929
 Page: 3 of 17
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-20 (2-7)	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 09:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-001B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-001

Order: 93929
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-20 (2-7)	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 09:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-001B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93929-001** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8270E** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
3. Aniline	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
4. Anthracene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
6. Benzo(a)anthracene	8.8		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
7. Benzo(a)pyrene	9.5		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-001

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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-20 (2-7)	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 09:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93929-001** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8270E** Description: **TW-20 (2-7)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	13		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
9. Benzo(ghi)perylene	9.2		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
10. Benzo(k)fluoranthene	4.8		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
20. 2-Chloronaphthalene	U	L-	µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
23. Chrysene	7.6		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
30. 2,4-Dinitrophenol	U		µg/L	23	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
33. Fluoranthene	16		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
34. Fluorene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
36. Hexachlorobutadiene	U		µg/L	5.7	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.7	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
38. Hexachloroethane	U	L-	µg/L	5.7	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
39. Indeno(1,2,3-cd)pyrene	8.8		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
40. Isophorone	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Holt, MI 48842
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Cadillac, MI 49601

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-002

Order: 93929
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 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-27	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93929-002A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	8.4		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
2. Barium	U		µg/L	100	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
4. Chromium	U		µg/L	10	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
5. Copper	U		µg/L	4.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
7. Selenium	U		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
8. Silver	U		µg/L	0.20	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
9. Zinc	U		µg/L	50	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO

Mercury by CVAAS, Total Aliquot ID: **93929-002A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/03/19	PM19L03B	12/03/19	M719L03B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93929-002** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-002B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	H	µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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8660 S. Mackinaw Trail	Cadillac, MI 49601	T: (231) 775-8368	F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-002

Order: 93929
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-27	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93929-002B **Matrix: Ground Water**
Description: TW-27

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U	H	µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
3. Benzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
4. Bromobenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
5. Bromochloromethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
6. Bromodichloromethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
7. Bromoform	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
8. Bromomethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
9. 2-Butanone	U	H	µg/L	25	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
10. n-Butylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
11. sec-Butylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
12. tert-Butylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
13. Carbon Disulfide	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
14. Carbon Tetrachloride	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
15. Chlorobenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
16. Chloroethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
17. Chloroform	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
18. Chloromethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
19. 2-Chlorotoluene	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
21. Dibromochloromethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
22. Dibromomethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
23. 1,2-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
24. 1,3-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
25. 1,4-Dichlorobenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
26. Dichlorodifluoromethane	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
27. 1,1-Dichloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
28. 1,2-Dichloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
29. 1,1-Dichloroethene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
30. cis-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
31. trans-1,2-Dichloroethene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
32. 1,2-Dichloropropane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
33. cis-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
34. trans-1,3-Dichloropropene	U	H	µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
35. Ethylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
36. Ethylene Dibromide	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
37. 2-Hexanone	U	H	µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
38. Isopropylbenzene	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-002

Order: 93929
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-27	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-002B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U	H	µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
40. Methylene Chloride	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 41. 2-Methylnaphthalene	15	V+	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
42. MTBE	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
43. Naphthalene	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
44. n-Propylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
45. Styrene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
48. Tetrachloroethene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
49. Toluene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
50. 1,2,4-Trichlorobenzene	U	H	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
51. 1,1,1-Trichloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
52. 1,1,2-Trichloroethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
53. Trichloroethene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
54. Trichlorofluoromethane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
55. 1,2,3-Trichloropropane	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
57. 1,2,4-Trimethylbenzene	1.1	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
58. 1,3,5-Trimethylbenzene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
59. Vinyl Chloride	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
60. m&p-Xylene	U	H	µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
61. o-Xylene	U	H	µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 62. Xylenes	U	H	µg/L	3.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93929-002** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8270E** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
3. Aniline	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
4. Anthracene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-002

Order: 93929
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Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-27	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93929-002 **Matrix: Ground Water**
Description: TW-27

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
20. 2-Chloronaphthalene	U	L-	µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
23. Chrysene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
33. Fluoranthene	1.4		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
34. Fluorene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
36. Hexachlorobutadiene	U		µg/L	5.5	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.5	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
38. Hexachloroethane	U	L-	µg/L	5.5	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
40. Isophorone	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
42. 2-Methylnaphthalene	7.3		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-002

Order: 93929
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 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-27	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93929-002** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-27**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
57. Pentachlorophenol	U		µg/L	22	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
58. Phenanthrene	2.9		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
59. Phenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
60. Pyrene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
61. Pyridine	U		µg/L	5.5	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.5	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-003

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 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-DUP	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 12:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93929-003A** Matrix: **Ground Water**
 Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-DUP**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9.4		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
2. Barium	U		µg/L	100	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
4. Chromium	U		µg/L	10	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
5. Copper	U		µg/L	4.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
7. Selenium	U		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
8. Silver	U		µg/L	0.20	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
9. Zinc	U		µg/L	50	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO

Mercury by CVAAS, Total Aliquot ID: **93929-003A** Matrix: **Ground Water**
 Method: **EPA 7470A** Description: **TW-DUP**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/03/19	PM19L03B	12/03/19	M719L03B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93929-003** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8082A** Description: **TW-DUP**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-003B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-DUP**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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8660 S. Mackinaw Trail	Cadillac, MI 49601	T: (231) 775-8368	F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-003

Order: 93929
 Page: 13 of 17
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-DUP	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 12:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93929-003B** Matrix: **Ground Water**
 Method: **EPA 5030C/EPA 8260D** Description: **TW-DUP**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

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 Cadillac, MI 49601

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 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-003

Order: 93929
Page: 14 of 17
Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-DUP	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 12:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93929-003B **Matrix: Ground Water**
Description: TW-DUP

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 41. 2-Methylnaphthalene	7.4	V+	µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/09/19	VP19L09A	12/09/19	VP19L09A	ZJJ

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93929-003 **Matrix: Ground Water**
Description: TW-DUP

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
3. Aniline	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
4. Anthracene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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T: (810) 220-3300
T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-003

Order: 93929
 Page: 15 of 17
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-DUP	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 12:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93929-003 **Matrix: Ground Water**
Description: TW-DUP

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
20. 2-Chloronaphthalene	U	L-	µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
23. Chrysene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
30. 2,4-Dinitrophenol	U		µg/L	21	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
33. Fluoranthene	U		µg/L	1.1	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
34. Fluorene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
36. Hexachlorobutadiene	U		µg/L	5.3	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.3	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
38. Hexachloroethane	U	L-	µg/L	5.3	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
40. Isophorone	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93929
Laboratory Sample Number: 93929-003

Order: 93929
 Page: 16 of 17
 Date: 12/10/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-DUP	Chain of Custody: 183692
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/25/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 12:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93929-003 **Matrix: Ground Water**
Description: TW-DUP

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
57. Pentachlorophenol	U		µg/L	21	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
58. Phenanthrene	U		µg/L	2.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
59. Phenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
60. Pyrene	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
61. Pyridine	U		µg/L	5.3	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.3	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	12/02/19	PS19L02C	12/03/19	S519L03A	GJP

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- H** : Hold time exceeded.
- L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
- V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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Monday, December 09, 2019

Fibertec Project Number: 93928
Project Identification: DDOT Coolidge /
Submittal Date: 11/26/2019

Mr. Dan McNeely
DLZ Michigan, Inc. - Lansing
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. McNeely,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Stephanie Wallace at 3:42 PM, Dec 09, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: 93928
Laboratory Sample Number: 93928-001

Order: 93928
Page: 2 of 7
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-33	Chain of Custody: 183693
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable Aliquot ID: **93928-001A** Matrix: **Ground Water**
Method: **EPA 3005A (Total Recoverable)/EPA 6020A** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	16		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
2. Barium	U		µg/L	100	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
3. Cadmium	U		µg/L	1.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
4. Chromium	U		µg/L	10	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
5. Copper	U		µg/L	4.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
6. Lead	U		µg/L	3.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
7. Selenium	U		µg/L	5.0	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
8. Silver	U		µg/L	0.20	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO
9. Zinc	U		µg/L	50	10	12/03/19	PT19L03D	12/03/19	T419L03C	VO

Mercury by CVAAS, Total Aliquot ID: **93928-001A** Matrix: **Ground Water**
Method: **EPA 7470A** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/03/19	PM19L03B	12/03/19	M719L03B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: **93928-001** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8082A** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 8. Aroclor-1262	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.1	12/03/19	PS19L03D	12/04/19	SF19L04A	RDK

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93928-001B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V-	µg/L	50	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93928
Laboratory Sample Number: 93928-001

Order: 93928
Page: 3 of 7
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-33	Chain of Custody: 183693
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **93928-001B** Matrix: **Ground Water**
Method: **EPA 5030C/EPA 8260D** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
3. Benzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
4. Bromobenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
5. Bromochloromethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
7. Bromoform	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
8. Bromomethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
9. 2-Butanone	U	V-	µg/L	25	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
11. sec-Butylbenzene	1.8		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
15. Chlorobenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
16. Chloroethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
17. Chloroform	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
18. Chloromethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	1.3		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
22. Dibromomethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
35. Ethylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
37. 2-Hexanone	U	V-	µg/L	50	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB

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Analytical Laboratory Report
Laboratory Project Number: 93928
Laboratory Sample Number: 93928-001

Order: 93928
 Page: 4 of 7
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-33	Chain of Custody: 183693
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: 93928-001B **Matrix: Ground Water**
Description: TW-33

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
40. Methylene Chloride	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
42. MTBE	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
43. Naphthalene	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
44. n-Propylbenzene	2.3		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
45. Styrene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
49. Toluene	2.0		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
53. Trichloroethene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
60. m&p-Xylene	U		µg/L	2.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
61. o-Xylene	U		µg/L	1.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/06/19	VM19L06C	12/07/19	VM19L06C	ANB

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 93928-001 **Matrix: Ground Water**
Description: TW-33

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
2. Acenaphthylene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
3. Aniline	U		µg/L	4.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
4. Anthracene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
6. Benzo(a)anthracene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
7. Benzo(a)pyrene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP

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Analytical Laboratory Report
Laboratory Project Number: 93928
Laboratory Sample Number: 93928-001

Order: 93928
Page: 5 of 7
Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-33	Chain of Custody: 183693
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93928-001** Matrix: **Ground Water**
Method: **EPA 3510C/EPA 8270E** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. Benzo(b)fluoranthene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
9. Benzo(ghi)perylene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
11. Benzyl Alcohol	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
17. Di-n-butyl Phthalate	U	L+	µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
23. Chrysene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
25. Dibenzofuran	U		µg/L	4.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
33. Fluoranthene	U		µg/L	1.3	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
34. Fluorene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
36. Hexachlorobutadiene	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
38. Hexachloroethane	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
40. Isophorone	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93928
Laboratory Sample Number: 93928-001

Order: 93928
 Page: 6 of 7
 Date: 12/09/19

Client Identification: DLZ Michigan, Inc. - Lansing	Sample Description: TW-33	Chain of Custody: 183693
Client Project Name: DDOT Coolidge	Sample No:	Collect Date: 11/26/19
Client Project No: NA	Sample Matrix: Ground Water	Collect Time: 10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS Aliquot ID: **93928-001** Matrix: **Ground Water**
 Method: **EPA 3510C/EPA 8270E** Description: **TW-33**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
45. Naphthalene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
46. 2-Nitroaniline	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
47. 3-Nitroaniline	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
48. 4-Nitroaniline	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
49. Nitrobenzene	U		µg/L	3.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
51. 4-Nitrophenol	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
52. N-Nitrosodimethylamine	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
57. Pentachlorophenol	U		µg/L	20	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
58. Phenanthrene	U		µg/L	2.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
59. Phenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
60. Pyrene	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
61. Pyridine	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	6.6	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.3	12/03/19	PS19L03E	12/03/19	SN19L03C	GJP

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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Cadillac, MI 49601

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08-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Expansion**

Work Order: **22020012**

Dear Dan,

ALS Environmental received 15 samples on 31-Jan-2022 11:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 120.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
 Project: Coolidge Expansion
 Work Order: 22020012

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020012-01	SB-43 (5-6')	Soil		1/31/2022 09:15	1/31/2022 23:30	<input type="checkbox"/>
22020012-02	SB-44 (7-8')	Soil		1/31/2022 09:45	1/31/2022 23:30	<input type="checkbox"/>
22020012-03	SB-45 (2-3')	Soil		1/31/2022 10:15	1/31/2022 23:30	<input type="checkbox"/>
22020012-04	SB-46 (11-12')	Soil		1/31/2022 10:30	1/31/2022 23:30	<input type="checkbox"/>
22020012-05	SB-47 (4-5')	Soil		1/31/2022 11:15	1/31/2022 23:30	<input type="checkbox"/>
22020012-06	SB-48 (2-3')	Soil		1/31/2022 11:30	1/31/2022 23:30	<input type="checkbox"/>
22020012-07	SB-49 (2-3')	Soil		1/31/2022 11:45	1/31/2022 23:30	<input type="checkbox"/>
22020012-08	SB-50 (1-2')	Soil		1/31/2022 12:00	1/31/2022 23:30	<input type="checkbox"/>
22020012-09	SB-51 (3-4')	Soil		1/31/2022 13:40	1/31/2022 23:30	<input type="checkbox"/>
22020012-10	SB-52 (1-2')	Soil		1/31/2022 14:00	1/31/2022 23:30	<input type="checkbox"/>
22020012-11	SB-53 (2-3')	Soil		1/31/2022 14:15	1/31/2022 23:30	<input type="checkbox"/>
22020012-12	SB-54 (2-3')	Soil		1/31/2022 14:40	1/31/2022 23:30	<input type="checkbox"/>
22020012-13	SB-55 (0-1')	Soil		1/31/2022 15:00	1/31/2022 23:30	<input type="checkbox"/>
22020012-14	SB-56 (1-2')	Soil		1/31/2022 15:30	1/31/2022 23:30	<input type="checkbox"/>
22020012-15	DUP-01	Soil		1/31/2022 08:00	1/31/2022 23:30	<input type="checkbox"/>

Client: DLZ
Project: Coolidge Expansion
Work Order: 22020012

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. A copy of the laboratory's scope of accreditation is available upon request.

Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

Any flags on MS/MSD samples not addressed in this narrative are unrelated to samples in this report.

With the following exceptions, all sample analyses achieved analytical criteria.

Method VOC_8260_S, Sample 22020012-01A MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: diisopropyl ethane

Method SVO_8270_S, Sample 22020012-03B, 06B, 07B, 10B, 12B, 15B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020012-13B: reduced due to sample being black/potential microwave danger

Method PCBLVI_8082_S, Sample 22020012-15B: One or more surrogate recoveries were below the lower control limits. The sample results may be biased low. Decachlorobiphenyl-Surrogate out due to matrix interference.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg	Milligrams per Kilogram

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-43 (5-6')
 Collection Date: 1/31/2022 09:15 AM

Work Order: 22020012
 Lab ID: 22020012-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1221	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1232	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1242	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1248	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1254	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1260	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1262	ND		65	µg/Kg	1	2/2/2022 09:35 PM
Aroclor 1268	ND		65	µg/Kg	1	2/2/2022 09:35 PM
PCBs, Total	ND		65	µg/Kg	1	2/2/2022 09:35 PM
<i>Surr: Decachlorobiphenyl</i>	88.3		60-138	%REC	1	2/2/2022 09:35 PM
<i>Surr: Tetrachloro-m-xylene</i>	84.0		65-125	%REC	1	2/2/2022 09:35 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	ND		0.014	mg/Kg	1	2/4/2022 02:34 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	7.0		0.36	mg/Kg	1	2/2/2022 09:52 PM
Barium	31		0.36	mg/Kg	1	2/2/2022 09:52 PM
Cadmium	ND		0.15	mg/Kg	1	2/2/2022 09:52 PM
Chromium	12		0.36	mg/Kg	1	2/2/2022 09:52 PM
Copper	9.6		0.36	mg/Kg	1	2/2/2022 09:52 PM
Lead	5.5		0.36	mg/Kg	1	2/2/2022 09:52 PM
Selenium	ND		0.36	mg/Kg	1	2/2/2022 09:52 PM
Silver	ND		0.36	mg/Kg	1	2/2/2022 09:52 PM
Zinc	35		0.73	mg/Kg	1	2/2/2022 09:52 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		32	µg/Kg	1	2/2/2022 09:51 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/2/2022 09:51 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/2/2022 09:51 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/2/2022 09:51 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/2/2022 09:51 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 09:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-43 (5-6')
Collection Date: 1/31/2022 09:15 AM

Work Order: 22020012
Lab ID: 22020012-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2-Methylnaphthalene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
2-Methylphenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 09:51 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/2/2022 09:51 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 09:51 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 09:51 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/2/2022 09:51 PM
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 09:51 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/2/2022 09:51 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/2/2022 09:51 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Acetophenone	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Anthracene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Atrazine	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Benzaldehyde	ND		66	µg/Kg	1	2/2/2022 09:51 PM
Benzo(a)anthracene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Benzo(a)pyrene	8.5		6.6	µg/Kg	1	2/2/2022 09:51 PM
Benzo(b)fluoranthene	7.2		6.6	µg/Kg	1	2/2/2022 09:51 PM
Benzo(g,h,i)perylene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Benzo(k)fluoranthene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Bis(2-ethylhexyl)phthalate	41		32	µg/Kg	1	2/2/2022 09:51 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/2/2022 09:51 PM
Caprolactam	ND		66	µg/Kg	1	2/2/2022 09:51 PM
Carbazole	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Chrysene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Dibenzofuran	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Di-n-butyl phthalate	35		32	µg/Kg	1	2/2/2022 09:51 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/2/2022 09:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-43 (5-6')
Collection Date: 1/31/2022 09:15 AM

Work Order: 22020012
Lab ID: 22020012-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	8.5		6.6	µg/Kg	1	2/2/2022 09:51 PM
Fluorene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Hexachloroethane	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Indeno(1,2,3-cd)pyrene	8.5		6.6	µg/Kg	1	2/2/2022 09:51 PM
Isophorone	ND		160	µg/Kg	1	2/2/2022 09:51 PM
Naphthalene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Nitrobenzene	ND		160	µg/Kg	1	2/2/2022 09:51 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/2/2022 09:51 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Phenanthrene	ND		6.6	µg/Kg	1	2/2/2022 09:51 PM
Phenol	ND		32	µg/Kg	1	2/2/2022 09:51 PM
Pyrene	8.5		6.6	µg/Kg	1	2/2/2022 09:51 PM
Surr: 2,4,6-Tribromophenol	64.3		38-92	%REC	1	2/2/2022 09:51 PM
Surr: 2-Fluorobiphenyl	68.7		44-107	%REC	1	2/2/2022 09:51 PM
Surr: 2-Fluorophenol	69.9		37-109	%REC	1	2/2/2022 09:51 PM
Surr: 4-Terphenyl-d14	74.1		52-123	%REC	1	2/2/2022 09:51 PM
Surr: Nitrobenzene-d5	67.8		41-94	%REC	1	2/2/2022 09:51 PM
Surr: Phenol-d6	81.4		28-111	%REC	1	2/2/2022 09:51 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: **JNS**

1,1,1,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1,1-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1,2,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1,2-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1,2-Trichlorotrifluoroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1-Dichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,1-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2,3-Trichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2,4-Trimethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2-Dibromoethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
1,2-Dichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-43 (5-6')
 Collection Date: 1/31/2022 09:15 AM

Work Order: 22020012
 Lab ID: 22020012-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
1,4-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
2-Butanone	ND		210	µg/Kg-dry	1	2/2/2022 04:02 PM
2-Hexanone	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
4-Methyl-2-pentanone	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Acetone	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Benzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Bromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Bromodichloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Bromoform	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Carbon disulfide	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Carbon tetrachloride	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Chlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Chloroform	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
cis-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
cis-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Dibromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Dibromomethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Diethyl ether	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
Isopropylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
m,p-Xylene	ND		64	µg/Kg-dry	1	2/2/2022 04:02 PM
Methyl iodide	ND		530	µg/Kg-dry	1	2/2/2022 04:02 PM
Methyl tert-butyl ether	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Methylene chloride	ND		260	µg/Kg-dry	1	2/2/2022 04:02 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:02 PM
n-Propylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
o-Xylene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Styrene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Tetrachloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Toluene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
trans-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
trans-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-43 (5-6')
Collection Date: 1/31/2022 09:15 AM

Work Order: 22020012
Lab ID: 22020012-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Trichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Trichlorofluoromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Vinyl acetate	ND		260	µg/Kg-dry	1	2/2/2022 04:02 PM
Vinyl chloride	ND		32	µg/Kg-dry	1	2/2/2022 04:02 PM
Xylenes, Total	ND		95	µg/Kg-dry	1	2/2/2022 04:02 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	103		70-130	%REC	1	2/2/2022 04:02 PM
<i>Surr: 4-Bromofluorobenzene</i>	91.2		70-130	%REC	1	2/2/2022 04:02 PM
<i>Surr: Dibromofluoromethane</i>	100		70-130	%REC	1	2/2/2022 04:02 PM
<i>Surr: Toluene-d8</i>	112		70-130	%REC	1	2/2/2022 04:02 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	8.8		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-44 (7-8')
Collection Date: 1/31/2022 09:45 AM

Work Order: 22020012
Lab ID: 22020012-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03		Analyst: RM
Aroclor 1016	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1221	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1232	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1242	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1248	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1254	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1260	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1262	ND		65	µg/Kg	1	2/2/2022 09:48 PM
Aroclor 1268	ND		65	µg/Kg	1	2/2/2022 09:48 PM
PCBs, Total	ND		65	µg/Kg	1	2/2/2022 09:48 PM
<i>Surr: Decachlorobiphenyl</i>	80.4		60-138	%REC	1	2/2/2022 09:48 PM
<i>Surr: Tetrachloro-m-xylene</i>	81.7		65-125	%REC	1	2/2/2022 09:48 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 02:36 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	4.2		0.32	mg/Kg	1	2/2/2022 09:55 PM
Barium	33		0.32	mg/Kg	1	2/2/2022 09:55 PM
Cadmium	ND		0.13	mg/Kg	1	2/2/2022 09:55 PM
Chromium	9.9		0.32	mg/Kg	1	2/2/2022 09:55 PM
Copper	8.0		0.32	mg/Kg	1	2/2/2022 09:55 PM
Lead	5.2		0.32	mg/Kg	1	2/2/2022 09:55 PM
Selenium	ND		0.32	mg/Kg	1	2/2/2022 09:55 PM
Silver	ND		0.32	mg/Kg	1	2/2/2022 09:55 PM
Zinc	23		0.64	mg/Kg	1	2/2/2022 09:55 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11		Analyst: EEW
1,1'-Biphenyl	ND		32	µg/Kg	1	2/2/2022 10:18 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/2/2022 10:18 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/2/2022 10:18 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,3,4,6-Tetrachlorophenol	ND		64	µg/Kg	1	2/2/2022 10:18 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,4-Dinitrophenol	ND		640	µg/Kg	1	2/2/2022 10:18 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 10:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-44 (7-8')
 Collection Date: 1/31/2022 09:45 AM

Work Order: 22020012
 Lab ID: 22020012-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2-Methylnaphthalene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
2-Methylphenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 10:18 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/2/2022 10:18 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 10:18 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 10:18 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
4-Chloroaniline	ND		64	µg/Kg	1	2/2/2022 10:18 PM
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 10:18 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/2/2022 10:18 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/2/2022 10:18 PM
Acenaphthene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Acenaphthylene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Acetophenone	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Anthracene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Atrazine	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Benzaldehyde	ND		64	µg/Kg	1	2/2/2022 10:18 PM
Benzo(a)anthracene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Benzo(a)pyrene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Benzo(b)fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Benzo(g,h,i)perylene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Benzo(k)fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Bis(2-ethylhexyl)phthalate	34		32	µg/Kg	1	2/2/2022 10:18 PM
Butyl benzyl phthalate	ND		64	µg/Kg	1	2/2/2022 10:18 PM
Caprolactam	ND		64	µg/Kg	1	2/2/2022 10:18 PM
Carbazole	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Chrysene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Dibenzo(a,h)anthracene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Dibenzofuran	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/2/2022 10:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-44 (7-8')
Collection Date: 1/31/2022 09:45 AM

Work Order: 22020012
Lab ID: 22020012-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Fluorene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Hexachloroethane	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Indeno(1,2,3-cd)pyrene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Isophorone	ND		160	µg/Kg	1	2/2/2022 10:18 PM
Naphthalene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Nitrobenzene	ND		160	µg/Kg	1	2/2/2022 10:18 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/2/2022 10:18 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Phenanthrene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Phenol	ND		32	µg/Kg	1	2/2/2022 10:18 PM
Pyrene	ND		6.4	µg/Kg	1	2/2/2022 10:18 PM
Surr: 2,4,6-Tribromophenol	63.6		38-92	%REC	1	2/2/2022 10:18 PM
Surr: 2-Fluorobiphenyl	64.9		44-107	%REC	1	2/2/2022 10:18 PM
Surr: 2-Fluorophenol	71.4		37-109	%REC	1	2/2/2022 10:18 PM
Surr: 4-Terphenyl-d14	66.1		52-123	%REC	1	2/2/2022 10:18 PM
Surr: Nitrobenzene-d5	66.7		41-94	%REC	1	2/2/2022 10:18 PM
Surr: Phenol-d6	83.3		28-111	%REC	1	2/2/2022 10:18 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1,1-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1,2,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1,2-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1,2-Trichlorotrifluoroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1-Dichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,1-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2,3-Trichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2,4-Trimethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2-Dibromoethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
1,2-Dichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-44 (7-8')
 Collection Date: 1/31/2022 09:45 AM

Work Order: 22020012
 Lab ID: 22020012-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
1,4-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
2-Butanone	ND		210	µg/Kg-dry	1	2/2/2022 04:18 PM
2-Hexanone	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
4-Methyl-2-pentanone	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Acetone	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Benzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Bromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Bromodichloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Bromoform	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Carbon disulfide	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Carbon tetrachloride	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Chlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Chloroform	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
cis-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
cis-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Dibromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Dibromomethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Diethyl ether	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
Isopropylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
m,p-Xylene	ND		64	µg/Kg-dry	1	2/2/2022 04:18 PM
Methyl iodide	ND		530	µg/Kg-dry	1	2/2/2022 04:18 PM
Methyl tert-butyl ether	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Methylene chloride	ND		270	µg/Kg-dry	1	2/2/2022 04:18 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:18 PM
n-Propylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
o-Xylene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Styrene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Tetrachloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Toluene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
trans-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
trans-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-44 (7-8')
Collection Date: 1/31/2022 09:45 AM

Work Order: 22020012
Lab ID: 22020012-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Trichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Trichlorofluoromethane	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Vinyl acetate	ND		270	µg/Kg-dry	1	2/2/2022 04:18 PM
Vinyl chloride	ND		32	µg/Kg-dry	1	2/2/2022 04:18 PM
Xylenes, Total	ND		96	µg/Kg-dry	1	2/2/2022 04:18 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	102		70-130	%REC	1	2/2/2022 04:18 PM
<i>Surr: 4-Bromofluorobenzene</i>	97.6		70-130	%REC	1	2/2/2022 04:18 PM
<i>Surr: Dibromofluoromethane</i>	99.3		70-130	%REC	1	2/2/2022 04:18 PM
<i>Surr: Toluene-d8</i>	109		70-130	%REC	1	2/2/2022 04:18 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	12		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-45 (2-3')
 Collection Date: 1/31/2022 10:15 AM

Work Order: 22020012
 Lab ID: 22020012-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 10:26 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 10:26 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 10:26 PM
<i>Surr: Decachlorobiphenyl</i>	70.2		60-138	%REC	1	2/2/2022 10:26 PM
<i>Surr: Tetrachloro-m-xylene</i>	81.3		65-125	%REC	1	2/2/2022 10:26 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.028		0.014	mg/Kg	1	2/4/2022 02:38 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	5.2		0.35	mg/Kg	1	2/2/2022 09:57 PM
Barium	180		3.5	mg/Kg	10	2/3/2022 02:52 PM
Cadmium	0.25		0.14	mg/Kg	1	2/2/2022 09:57 PM
Chromium	13		0.35	mg/Kg	1	2/2/2022 09:57 PM
Copper	15		0.35	mg/Kg	1	2/2/2022 09:57 PM
Lead	140		3.5	mg/Kg	10	2/3/2022 02:52 PM
Selenium	ND		0.35	mg/Kg	1	2/2/2022 09:57 PM
Silver	ND		0.35	mg/Kg	1	2/2/2022 09:57 PM
Zinc	110		0.70	mg/Kg	1	2/2/2022 09:57 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		330	µg/Kg	10	2/3/2022 12:07 AM
1,2,4,5-Tetrachlorobenzene	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
1,4-Dioxane	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
2,2'-Oxybis(1-chloropropane)	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,3,4,6-Tetrachlorophenol	ND		670	µg/Kg	10	2/3/2022 12:07 AM
2,4,5-Trichlorophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,4,6-Trichlorophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,4-Dichlorophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,4-Dimethylphenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,4-Dinitrophenol	ND		6,600	µg/Kg	10	2/3/2022 12:07 AM
2,4-Dinitrotoluene	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2,6-Dinitrotoluene	ND		330	µg/Kg	10	2/3/2022 12:07 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-45 (2-3')
Collection Date: 1/31/2022 10:15 AM

Work Order: 22020012
Lab ID: 22020012-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		66	µg/Kg	10	2/3/2022 12:07 AM
2-Chlorophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2-Methylnaphthalene	120		66	µg/Kg	10	2/3/2022 12:07 AM
2-Methylphenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2-Nitroaniline	ND		330	µg/Kg	10	2/3/2022 12:07 AM
2-Nitrophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
3&4-Methylphenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
3,3'-Dichlorobenzidine	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
3-Nitroaniline	ND		330	µg/Kg	10	2/3/2022 12:07 AM
4,6-Dinitro-2-methylphenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
4-Bromophenyl phenyl ether	ND		330	µg/Kg	10	2/3/2022 12:07 AM
4-Chloro-3-methylphenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
4-Chloroaniline	ND		670	µg/Kg	10	2/3/2022 12:07 AM
4-Chlorophenyl phenyl ether	ND		330	µg/Kg	10	2/3/2022 12:07 AM
4-Nitroaniline	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
4-Nitrophenol	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
Acenaphthene	840		66	µg/Kg	10	2/3/2022 12:07 AM
Acenaphthylene	130		66	µg/Kg	10	2/3/2022 12:07 AM
Acetophenone	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Anthracene	2,700		66	µg/Kg	10	2/3/2022 12:07 AM
Atrazine	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Benzaldehyde	ND		670	µg/Kg	10	2/3/2022 12:07 AM
Benzo(a)anthracene	6,900		66	µg/Kg	10	2/3/2022 12:07 AM
Benzo(a)pyrene	5,800		66	µg/Kg	10	2/3/2022 12:07 AM
Benzo(b)fluoranthene	7,700		66	µg/Kg	10	2/3/2022 12:07 AM
Benzo(g,h,i)perylene	4,100		66	µg/Kg	10	2/3/2022 12:07 AM
Benzo(k)fluoranthene	2,800		66	µg/Kg	10	2/3/2022 12:07 AM
Bis(2-chloroethoxy)methane	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Bis(2-chloroethyl)ether	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Bis(2-ethylhexyl)phthalate	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Butyl benzyl phthalate	ND		670	µg/Kg	10	2/3/2022 12:07 AM
Caprolactam	ND		670	µg/Kg	10	2/3/2022 12:07 AM
Carbazole	590		330	µg/Kg	10	2/3/2022 12:07 AM
Chrysene	6,000		66	µg/Kg	10	2/3/2022 12:07 AM
Dibenzo(a,h)anthracene	990		66	µg/Kg	10	2/3/2022 12:07 AM
Dibenzofuran	420		330	µg/Kg	10	2/3/2022 12:07 AM
Diethyl phthalate	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Dimethyl phthalate	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Di-n-butyl phthalate	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Di-n-octyl phthalate	ND		330	µg/Kg	10	2/3/2022 12:07 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-45 (2-3')
 Collection Date: 1/31/2022 10:15 AM

Work Order: 22020012
 Lab ID: 22020012-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	15,000		66	µg/Kg	10	2/3/2022 12:07 AM
Fluorene	1,000		66	µg/Kg	10	2/3/2022 12:07 AM
Hexachlorobenzene	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Hexachlorobutadiene	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Hexachlorocyclopentadiene	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Hexachloroethane	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Indeno(1,2,3-cd)pyrene	5,000		66	µg/Kg	10	2/3/2022 12:07 AM
Isophorone	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
Naphthalene	99		66	µg/Kg	10	2/3/2022 12:07 AM
Nitrobenzene	ND		1,700	µg/Kg	10	2/3/2022 12:07 AM
N-Nitrosodi-n-propylamine	ND		330	µg/Kg	10	2/3/2022 12:07 AM
N-Nitrosodiphenylamine	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Pentachlorophenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Phenanthrene	9,800		66	µg/Kg	10	2/3/2022 12:07 AM
Phenol	ND		330	µg/Kg	10	2/3/2022 12:07 AM
Pyrene	11,000		66	µg/Kg	10	2/3/2022 12:07 AM
Surr: 2,4,6-Tribromophenol	41.6		38-92	%REC	10	2/3/2022 12:07 AM
Surr: 2-Fluorobiphenyl	74.4		44-107	%REC	10	2/3/2022 12:07 AM
Surr: 2-Fluorophenol	68.8		37-109	%REC	10	2/3/2022 12:07 AM
Surr: 4-Terphenyl-d14	72.6		52-123	%REC	10	2/3/2022 12:07 AM
Surr: Nitrobenzene-d5	71.8		41-94	%REC	10	2/3/2022 12:07 AM
Surr: Phenol-d6	85.2		28-111	%REC	10	2/3/2022 12:07 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,4-Trimethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-45 (2-3')
 Collection Date: 1/31/2022 10:15 AM

Work Order: 22020012
 Lab ID: 22020012-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Benzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromoform	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Carbon disulfide	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloroform	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Isopropylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	2/2/2022 04:34 PM
Methyl iodide	ND		610	µg/Kg-dry	1	2/2/2022 04:34 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/2/2022 04:34 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
n-Propylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
o-Xylene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Styrene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Toluene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-45 (2-3')
 Collection Date: 1/31/2022 10:15 AM

Work Order: 22020012
 Lab ID: 22020012-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/2/2022 04:34 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/2/2022 04:34 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 04:34 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	2/2/2022 04:34 PM
Surr: 4-Bromofluorobenzene	92.5		70-130	%REC	1	2/2/2022 04:34 PM
Surr: Dibromofluoromethane	98.9		70-130	%REC	1	2/2/2022 04:34 PM
Surr: Toluene-d8	105		70-130	%REC	1	2/2/2022 04:34 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-46 (11-12')
Collection Date: 1/31/2022 10:30 AM

Work Order: 22020012
Lab ID: 22020012-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1221	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1232	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1242	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1248	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1254	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1260	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1262	ND		65	µg/Kg	1	2/2/2022 10:39 PM
Aroclor 1268	ND		65	µg/Kg	1	2/2/2022 10:39 PM
PCBs, Total	ND		65	µg/Kg	1	2/2/2022 10:39 PM
<i>Surr: Decachlorobiphenyl</i>	96.6		60-138	%REC	1	2/2/2022 10:39 PM
<i>Surr: Tetrachloro-m-xylene</i>	91.0		65-125	%REC	1	2/2/2022 10:39 PM
MERCURY BY CVA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.14		0.014	mg/Kg	1	2/4/2022 02:40 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	3.7		0.37	mg/Kg	1	2/2/2022 10:00 PM
Barium	31		0.37	mg/Kg	1	2/2/2022 10:00 PM
Cadmium	ND		0.15	mg/Kg	1	2/2/2022 10:00 PM
Chromium	7.2		0.37	mg/Kg	1	2/2/2022 10:00 PM
Copper	6.1		0.37	mg/Kg	1	2/2/2022 10:00 PM
Lead	4.4		0.37	mg/Kg	1	2/2/2022 10:00 PM
Selenium	ND		0.37	mg/Kg	1	2/2/2022 10:00 PM
Silver	ND		0.37	mg/Kg	1	2/2/2022 10:00 PM
Zinc	18		0.73	mg/Kg	1	2/2/2022 10:00 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		33	µg/Kg	1	2/2/2022 10:45 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/2/2022 10:45 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/2/2022 10:45 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/2/2022 10:45 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,4-Dinitrophenol	ND		670	µg/Kg	1	2/2/2022 10:45 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 10:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-46 (11-12')
Collection Date: 1/31/2022 10:30 AM

Work Order: 22020012
Lab ID: 22020012-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2-Methylnaphthalene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
2-Methylphenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 10:45 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/2/2022 10:45 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 10:45 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 10:45 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/2/2022 10:45 PM
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 10:45 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/2/2022 10:45 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/2/2022 10:45 PM
Acenaphthene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Acenaphthylene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Acetophenone	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Anthracene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Atrazine	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Benzaldehyde	ND		67	µg/Kg	1	2/2/2022 10:45 PM
Benzo(a)anthracene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Benzo(a)pyrene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Benzo(b)fluoranthene	8.0		6.7	µg/Kg	1	2/2/2022 10:45 PM
Benzo(g,h,i)perylene	7.3		6.7	µg/Kg	1	2/2/2022 10:45 PM
Benzo(k)fluoranthene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Bis(2-ethylhexyl)phthalate	37		33	µg/Kg	1	2/2/2022 10:45 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/2/2022 10:45 PM
Caprolactam	ND		67	µg/Kg	1	2/2/2022 10:45 PM
Carbazole	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Chrysene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Dibenzo(a,h)anthracene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Dibenzofuran	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/2/2022 10:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-46 (11-12')
 Collection Date: 1/31/2022 10:30 AM

Work Order: 22020012
 Lab ID: 22020012-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Fluorene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Hexachloroethane	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Indeno(1,2,3-cd)pyrene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Isophorone	ND		170	µg/Kg	1	2/2/2022 10:45 PM
Naphthalene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Nitrobenzene	ND		170	µg/Kg	1	2/2/2022 10:45 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/2/2022 10:45 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Phenanthrene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Phenol	ND		33	µg/Kg	1	2/2/2022 10:45 PM
Pyrene	ND		6.7	µg/Kg	1	2/2/2022 10:45 PM
Surr: 2,4,6-Tribromophenol	62.6		38-92	%REC	1	2/2/2022 10:45 PM
Surr: 2-Fluorobiphenyl	63.4		44-107	%REC	1	2/2/2022 10:45 PM
Surr: 2-Fluorophenol	67.8		37-109	%REC	1	2/2/2022 10:45 PM
Surr: 4-Terphenyl-d14	67.9		52-123	%REC	1	2/2/2022 10:45 PM
Surr: Nitrobenzene-d5	65.2		41-94	%REC	1	2/2/2022 10:45 PM
Surr: Phenol-d6	80.1		28-111	%REC	1	2/2/2022 10:45 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1,1-Trichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1,2,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1,2-Trichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1,2-Trichlorotrifluoroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1-Dichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,1-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2,3-Trichloropropane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2,4-Trimethylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2-Dibromoethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
1,2-Dichloropropane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-46 (11-12')
 Collection Date: 1/31/2022 10:30 AM

Work Order: 22020012
 Lab ID: 22020012-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
1,4-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/2/2022 04:50 PM
2-Hexanone	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
4-Methyl-2-pentanone	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Acetone	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Benzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Bromochloromethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Bromodichloromethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Bromoform	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Carbon disulfide	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Carbon tetrachloride	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Chlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Chloroform	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
cis-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
cis-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Dibromochloromethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Dibromomethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Diethyl ether	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
Isopropylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
m,p-Xylene	ND		68	µg/Kg-dry	1	2/2/2022 04:50 PM
Methyl iodide	ND		570	µg/Kg-dry	1	2/2/2022 04:50 PM
Methyl tert-butyl ether	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Methylene chloride	ND		280	µg/Kg-dry	1	2/2/2022 04:50 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/2/2022 04:50 PM
n-Propylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
o-Xylene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Styrene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Tetrachloroethene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Toluene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
trans-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
trans-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-46 (11-12')
Collection Date: 1/31/2022 10:30 AM

Work Order: 22020012
Lab ID: 22020012-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Trichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Trichlorofluoromethane	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Vinyl acetate	ND		280	µg/Kg-dry	1	2/2/2022 04:50 PM
Vinyl chloride	ND		34	µg/Kg-dry	1	2/2/2022 04:50 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/2/2022 04:50 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	101		70-130	%REC	1	2/2/2022 04:50 PM
<i>Surr: 4-Bromofluorobenzene</i>	96.2		70-130	%REC	1	2/2/2022 04:50 PM
<i>Surr: Dibromofluoromethane</i>	99.6		70-130	%REC	1	2/2/2022 04:50 PM
<i>Surr: Toluene-d8</i>	104		70-130	%REC	1	2/2/2022 04:50 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	11		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-47 (4-5')
 Collection Date: 1/31/2022 11:15 AM

Work Order: 22020012
 Lab ID: 22020012-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03		Analyst: RM
Aroclor 1016	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1221	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1232	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1242	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1248	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1254	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1260	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1262	ND		65	µg/Kg	1	2/2/2022 08:44 PM
Aroclor 1268	ND		65	µg/Kg	1	2/2/2022 08:44 PM
PCBs, Total	ND		65	µg/Kg	1	2/2/2022 08:44 PM
<i>Surr: Decachlorobiphenyl</i>	66.7		60-138	%REC	1	2/2/2022 08:44 PM
<i>Surr: Tetrachloro-m-xylene</i>	79.4		65-125	%REC	1	2/2/2022 08:44 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.019		0.014	mg/Kg	1	2/4/2022 02:41 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.7		0.33	mg/Kg	1	2/2/2022 10:02 PM
Barium	21		0.33	mg/Kg	1	2/2/2022 10:02 PM
Cadmium	ND		0.13	mg/Kg	1	2/2/2022 10:02 PM
Chromium	6.0		0.33	mg/Kg	1	2/2/2022 10:02 PM
Copper	5.4		0.33	mg/Kg	1	2/2/2022 10:02 PM
Lead	13		0.33	mg/Kg	1	2/2/2022 10:02 PM
Selenium	ND		0.33	mg/Kg	1	2/2/2022 10:02 PM
Silver	ND		0.33	mg/Kg	1	2/2/2022 10:02 PM
Zinc	26		0.65	mg/Kg	1	2/2/2022 10:02 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/2/2022 07:08 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/2/2022 07:08 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/2/2022 07:08 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/2/2022 07:08 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/2/2022 07:08 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 07:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-47 (4-5')
 Collection Date: 1/31/2022 11:15 AM

Work Order: 22020012
 Lab ID: 22020012-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2-Methylnaphthalene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
2-Methylphenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 07:08 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/2/2022 07:08 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 07:08 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 07:08 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/2/2022 07:08 PM
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 07:08 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/2/2022 07:08 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/2/2022 07:08 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
Acetophenone	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Anthracene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
Atrazine	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Benzaldehyde	ND		66	µg/Kg	1	2/2/2022 07:08 PM
Benzo(a)anthracene	18		6.6	µg/Kg	1	2/2/2022 07:08 PM
Benzo(a)pyrene	24		6.6	µg/Kg	1	2/2/2022 07:08 PM
Benzo(b)fluoranthene	30		6.6	µg/Kg	1	2/2/2022 07:08 PM
Benzo(g,h,i)perylene	20		6.6	µg/Kg	1	2/2/2022 07:08 PM
Benzo(k)fluoranthene	13		6.6	µg/Kg	1	2/2/2022 07:08 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Bis(2-ethylhexyl)phthalate	39		33	µg/Kg	1	2/2/2022 07:08 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/2/2022 07:08 PM
Caprolactam	ND		66	µg/Kg	1	2/2/2022 07:08 PM
Carbazole	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Chrysene	16		6.6	µg/Kg	1	2/2/2022 07:08 PM
Dibenzo(a,h)anthracene	8.6		6.6	µg/Kg	1	2/2/2022 07:08 PM
Dibenzofuran	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/2/2022 07:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-47 (4-5')
 Collection Date: 1/31/2022 11:15 AM

Work Order: 22020012
 Lab ID: 22020012-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	35		6.6	µg/Kg	1	2/2/2022 07:08 PM
Fluorene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Hexachloroethane	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Indeno(1,2,3-cd)pyrene	23		6.6	µg/Kg	1	2/2/2022 07:08 PM
Isophorone	ND		170	µg/Kg	1	2/2/2022 07:08 PM
Naphthalene	ND		6.6	µg/Kg	1	2/2/2022 07:08 PM
Nitrobenzene	ND		170	µg/Kg	1	2/2/2022 07:08 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/2/2022 07:08 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Phenanthrene	11		6.6	µg/Kg	1	2/2/2022 07:08 PM
Phenol	ND		33	µg/Kg	1	2/2/2022 07:08 PM
Pyrene	35		6.6	µg/Kg	1	2/2/2022 07:08 PM
Surr: 2,4,6-Tribromophenol	69.9		38-92	%REC	1	2/2/2022 07:08 PM
Surr: 2-Fluorobiphenyl	71.8		44-107	%REC	1	2/2/2022 07:08 PM
Surr: 2-Fluorophenol	72.6		37-109	%REC	1	2/2/2022 07:08 PM
Surr: 4-Terphenyl-d14	72.6		52-123	%REC	1	2/2/2022 07:08 PM
Surr: Nitrobenzene-d5	69.9		41-94	%REC	1	2/2/2022 07:08 PM
Surr: Phenol-d6	84.7		28-111	%REC	1	2/2/2022 07:08 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2,4-Trimethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-47 (4-5')
 Collection Date: 1/31/2022 11:15 AM

Work Order: 22020012
 Lab ID: 22020012-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 05:05 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Benzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Bromoform	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Carbon disulfide	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Chloroform	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
Isopropylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
m,p-Xylene	ND		71	µg/Kg-dry	1	2/2/2022 05:05 PM
Methyl iodide	ND		590	µg/Kg-dry	1	2/2/2022 05:05 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/2/2022 05:05 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 05:05 PM
n-Propylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
o-Xylene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Styrene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Toluene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-47 (4-5')
 Collection Date: 1/31/2022 11:15 AM

Work Order: 22020012
 Lab ID: 22020012-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/2/2022 05:05 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/2/2022 05:05 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 05:05 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	2/2/2022 05:05 PM
Surr: 4-Bromofluorobenzene	92.4		70-130	%REC	1	2/2/2022 05:05 PM
Surr: Dibromofluoromethane	102		70-130	%REC	1	2/2/2022 05:05 PM
Surr: Toluene-d8	109		70-130	%REC	1	2/2/2022 05:05 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	12		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-48 (2-3')
 Collection Date: 1/31/2022 11:30 AM

Work Order: 22020012
 Lab ID: 22020012-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 10:51 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 10:51 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 10:51 PM
<i>Surr: Decachlorobiphenyl</i>	61.1		60-138	%REC	1	2/2/2022 10:51 PM
<i>Surr: Tetrachloro-m-xylene</i>	77.7		65-125	%REC	1	2/2/2022 10:51 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.065		0.014	mg/Kg	1	2/4/2022 02:43 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	5.0		0.38	mg/Kg	1	2/2/2022 10:08 PM
Barium	80		0.38	mg/Kg	1	2/2/2022 10:08 PM
Cadmium	0.47		0.15	mg/Kg	1	2/2/2022 10:08 PM
Chromium	11		0.38	mg/Kg	1	2/2/2022 10:08 PM
Copper	17		0.38	mg/Kg	1	2/2/2022 10:08 PM
Lead	190		3.8	mg/Kg	10	2/3/2022 02:53 PM
Selenium	ND		0.38	mg/Kg	1	2/2/2022 10:08 PM
Silver	ND		0.38	mg/Kg	1	2/2/2022 10:08 PM
Zinc	110		0.75	mg/Kg	1	2/2/2022 10:08 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		320	µg/Kg	10	2/3/2022 12:34 AM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,3,4,6-Tetrachlorophenol	ND		640	µg/Kg	10	2/3/2022 12:34 AM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,4-Dinitrophenol	ND		6,400	µg/Kg	10	2/3/2022 12:34 AM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/3/2022 12:34 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-48 (2-3')
 Collection Date: 1/31/2022 11:30 AM

Work Order: 22020012
 Lab ID: 22020012-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		64	µg/Kg	10	2/3/2022 12:34 AM
2-Chlorophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2-Methylnaphthalene	270		64	µg/Kg	10	2/3/2022 12:34 AM
2-Methylphenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2-Nitroaniline	ND		320	µg/Kg	10	2/3/2022 12:34 AM
2-Nitrophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
3&4-Methylphenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
3-Nitroaniline	ND		320	µg/Kg	10	2/3/2022 12:34 AM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/3/2022 12:34 AM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
4-Chloroaniline	ND		640	µg/Kg	10	2/3/2022 12:34 AM
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/3/2022 12:34 AM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
Acenaphthene	ND		64	µg/Kg	10	2/3/2022 12:34 AM
Acenaphthylene	ND		64	µg/Kg	10	2/3/2022 12:34 AM
Acetophenone	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Anthracene	150		64	µg/Kg	10	2/3/2022 12:34 AM
Atrazine	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Benzaldehyde	ND		640	µg/Kg	10	2/3/2022 12:34 AM
Benzo(a)anthracene	730		64	µg/Kg	10	2/3/2022 12:34 AM
Benzo(a)pyrene	680		64	µg/Kg	10	2/3/2022 12:34 AM
Benzo(b)fluoranthene	990		64	µg/Kg	10	2/3/2022 12:34 AM
Benzo(g,h,i)perylene	500		64	µg/Kg	10	2/3/2022 12:34 AM
Benzo(k)fluoranthene	310		64	µg/Kg	10	2/3/2022 12:34 AM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Bis(2-ethylhexyl)phthalate	420		320	µg/Kg	10	2/3/2022 12:34 AM
Butyl benzyl phthalate	ND		640	µg/Kg	10	2/3/2022 12:34 AM
Caprolactam	ND		640	µg/Kg	10	2/3/2022 12:34 AM
Carbazole	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Chrysene	640		64	µg/Kg	10	2/3/2022 12:34 AM
Dibenzo(a,h)anthracene	150		64	µg/Kg	10	2/3/2022 12:34 AM
Dibenzofuran	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Diethyl phthalate	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Dimethyl phthalate	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/3/2022 12:34 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-48 (2-3')
Collection Date: 1/31/2022 11:30 AM

Work Order: 22020012
Lab ID: 22020012-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	1,400		64	µg/Kg	10	2/3/2022 12:34 AM
Fluorene	ND		64	µg/Kg	10	2/3/2022 12:34 AM
Hexachlorobenzene	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Hexachloroethane	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Indeno(1,2,3-cd)pyrene	600		64	µg/Kg	10	2/3/2022 12:34 AM
Isophorone	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
Naphthalene	250		64	µg/Kg	10	2/3/2022 12:34 AM
Nitrobenzene	ND		1,600	µg/Kg	10	2/3/2022 12:34 AM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/3/2022 12:34 AM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Pentachlorophenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Phenanthrene	640		64	µg/Kg	10	2/3/2022 12:34 AM
Phenol	ND		320	µg/Kg	10	2/3/2022 12:34 AM
Pyrene	1,400		64	µg/Kg	10	2/3/2022 12:34 AM
Surr: 2,4,6-Tribromophenol	64.4		38-92	%REC	10	2/3/2022 12:34 AM
Surr: 2-Fluorobiphenyl	70.0		44-107	%REC	10	2/3/2022 12:34 AM
Surr: 2-Fluorophenol	72.4		37-109	%REC	10	2/3/2022 12:34 AM
Surr: 4-Terphenyl-d14	83.0		52-123	%REC	10	2/3/2022 12:34 AM
Surr: Nitrobenzene-d5	66.8		41-94	%REC	10	2/3/2022 12:34 AM
Surr: Phenol-d6	83.6		28-111	%REC	10	2/3/2022 12:34 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1,1-Trichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1,2,2-Tetrachloroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1,2-Trichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1,2-Trichlorotrifluoroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1-Dichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,1-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2,3-Trichloropropane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2,4-Trichlorobenzene	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2,4-Trimethylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2-Dibromo-3-chloropropane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2-Dibromoethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2-Dichloroethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
1,2-Dichloropropane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,3,5-Trimethylbenzene	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-48 (2-3')
 Collection Date: 1/31/2022 11:30 AM

Work Order: 22020012
 Lab ID: 22020012-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
1,4-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
2-Butanone	ND		340	µg/Kg-dry	1	2/2/2022 05:21 PM
2-Hexanone	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
2-Methylnaphthalene	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
4-Methyl-2-pentanone	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Acetone	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Acrylonitrile	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Benzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Bromochloromethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Bromodichloromethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Bromoform	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Bromomethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Carbon disulfide	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Carbon tetrachloride	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Chlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Chloroethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Chloroform	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Chloromethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
cis-1,2-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
cis-1,3-Dichloropropene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Dibromochloromethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Dibromomethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Dichlorodifluoromethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Diethyl ether	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Ethylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Hexachloroethane	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
Isopropylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
m,p-Xylene	ND		100	µg/Kg-dry	1	2/2/2022 05:21 PM
Methyl iodide	ND		860	µg/Kg-dry	1	2/2/2022 05:21 PM
Methyl tert-butyl ether	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Methylene chloride	ND		430	µg/Kg-dry	1	2/2/2022 05:21 PM
Naphthalene	ND		170	µg/Kg-dry	1	2/2/2022 05:21 PM
n-Propylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
o-Xylene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Styrene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Tetrachloroethene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Toluene	95		51	µg/Kg-dry	1	2/2/2022 05:21 PM
trans-1,2-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
trans-1,3-Dichloropropene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-48 (2-3')
 Collection Date: 1/31/2022 11:30 AM

Work Order: 22020012
 Lab ID: 22020012-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Trichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Trichlorofluoromethane	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Vinyl acetate	ND		430	µg/Kg-dry	1	2/2/2022 05:21 PM
Vinyl chloride	ND		51	µg/Kg-dry	1	2/2/2022 05:21 PM
Xylenes, Total	ND		150	µg/Kg-dry	1	2/2/2022 05:21 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	110		70-130	%REC	1	2/2/2022 05:21 PM
<i>Surr: 4-Bromofluorobenzene</i>	94.4		70-130	%REC	1	2/2/2022 05:21 PM
<i>Surr: Dibromofluoromethane</i>	103		70-130	%REC	1	2/2/2022 05:21 PM
<i>Surr: Toluene-d8</i>	111		70-130	%REC	1	2/2/2022 05:21 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	23		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-49 (2-3')
 Collection Date: 1/31/2022 11:45 AM

Work Order: 22020012
 Lab ID: 22020012-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 11:04 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 11:04 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 11:04 PM
<i>Surr: Decachlorobiphenyl</i>	66.2		60-138	%REC	1	2/2/2022 11:04 PM
<i>Surr: Tetrachloro-m-xylene</i>	85.6		65-125	%REC	1	2/2/2022 11:04 PM
MERCURY BY CVA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.027		0.014	mg/Kg	1	2/4/2022 02:45 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	4.5		0.41	mg/Kg	1	2/2/2022 10:11 PM
Barium	47		0.41	mg/Kg	1	2/2/2022 10:11 PM
Cadmium	ND		0.16	mg/Kg	1	2/2/2022 10:11 PM
Chromium	34		0.41	mg/Kg	1	2/2/2022 10:11 PM
Copper	8.4		0.41	mg/Kg	1	2/2/2022 10:11 PM
Lead	12		0.41	mg/Kg	1	2/2/2022 10:11 PM
Selenium	0.51		0.41	mg/Kg	1	2/2/2022 10:11 PM
Silver	ND		0.41	mg/Kg	1	2/2/2022 10:11 PM
Zinc	28		0.82	mg/Kg	1	2/2/2022 10:11 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		320	µg/Kg	10	2/3/2022 01:01 AM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,3,4,6-Tetrachlorophenol	ND		660	µg/Kg	10	2/3/2022 01:01 AM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,4-Dinitrophenol	ND		6,600	µg/Kg	10	2/3/2022 01:01 AM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/3/2022 01:01 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-49 (2-3')
Collection Date: 1/31/2022 11:45 AM

Work Order: 22020012
Lab ID: 22020012-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
2-Chlorophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2-Methylnaphthalene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
2-Methylphenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2-Nitroaniline	ND		320	µg/Kg	10	2/3/2022 01:01 AM
2-Nitrophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
3&4-Methylphenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
3-Nitroaniline	ND		320	µg/Kg	10	2/3/2022 01:01 AM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/3/2022 01:01 AM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
4-Chloroaniline	ND		660	µg/Kg	10	2/3/2022 01:01 AM
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/3/2022 01:01 AM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
Acenaphthene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
Acenaphthylene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
Acetophenone	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Anthracene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
Atrazine	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Benzaldehyde	ND		660	µg/Kg	10	2/3/2022 01:01 AM
Benzo(a)anthracene	290		66	µg/Kg	10	2/3/2022 01:01 AM
Benzo(a)pyrene	310		66	µg/Kg	10	2/3/2022 01:01 AM
Benzo(b)fluoranthene	380		66	µg/Kg	10	2/3/2022 01:01 AM
Benzo(g,h,i)perylene	310		66	µg/Kg	10	2/3/2022 01:01 AM
Benzo(k)fluoranthene	170		66	µg/Kg	10	2/3/2022 01:01 AM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Bis(2-ethylhexyl)phthalate	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Butyl benzyl phthalate	ND		660	µg/Kg	10	2/3/2022 01:01 AM
Caprolactam	ND		660	µg/Kg	10	2/3/2022 01:01 AM
Carbazole	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Chrysene	300		66	µg/Kg	10	2/3/2022 01:01 AM
Dibenzo(a,h)anthracene	100		66	µg/Kg	10	2/3/2022 01:01 AM
Dibenzofuran	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Diethyl phthalate	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Dimethyl phthalate	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/3/2022 01:01 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-49 (2-3')
 Collection Date: 1/31/2022 11:45 AM

Work Order: 22020012
 Lab ID: 22020012-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	350		66	µg/Kg	10	2/3/2022 01:01 AM
Fluorene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
Hexachlorobenzene	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Hexachloroethane	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Indeno(1,2,3-cd)pyrene	260		66	µg/Kg	10	2/3/2022 01:01 AM
Isophorone	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
Naphthalene	ND		66	µg/Kg	10	2/3/2022 01:01 AM
Nitrobenzene	ND		1,600	µg/Kg	10	2/3/2022 01:01 AM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/3/2022 01:01 AM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Pentachlorophenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Phenanthrene	140		66	µg/Kg	10	2/3/2022 01:01 AM
Phenol	ND		320	µg/Kg	10	2/3/2022 01:01 AM
Pyrene	450		66	µg/Kg	10	2/3/2022 01:01 AM
Surr: 2,4,6-Tribromophenol	63.4		38-92	%REC	10	2/3/2022 01:01 AM
Surr: 2-Fluorobiphenyl	72.6		44-107	%REC	10	2/3/2022 01:01 AM
Surr: 2-Fluorophenol	76.4		37-109	%REC	10	2/3/2022 01:01 AM
Surr: 4-Terphenyl-d14	82.8		52-123	%REC	10	2/3/2022 01:01 AM
Surr: Nitrobenzene-d5	71.0		41-94	%REC	10	2/3/2022 01:01 AM
Surr: Phenol-d6	88.0		28-111	%REC	10	2/3/2022 01:01 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1,1-Trichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1,2,2-Tetrachloroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1,2-Trichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1,2-Trichlorotrifluoroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1-Dichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,1-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2,3-Trichloropropane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2,4-Trichlorobenzene	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2,4-Trimethylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2-Dibromo-3-chloropropane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2-Dibromoethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2-Dichloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
1,2-Dichloropropane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,3,5-Trimethylbenzene	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-49 (2-3')
 Collection Date: 1/31/2022 11:45 AM

Work Order: 22020012
 Lab ID: 22020012-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
1,4-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
2-Butanone	ND		260	µg/Kg-dry	1	2/2/2022 05:37 PM
2-Hexanone	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
2-Methylnaphthalene	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
4-Methyl-2-pentanone	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Acetone	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Acrylonitrile	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Benzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Bromochloromethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Bromodichloromethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Bromoform	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Bromomethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Carbon disulfide	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Carbon tetrachloride	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Chlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Chloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Chloroform	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Chloromethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
cis-1,2-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
cis-1,3-Dichloropropene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Dibromochloromethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Dibromomethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Dichlorodifluoromethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Diethyl ether	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Ethylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Hexachloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
Isopropylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
m,p-Xylene	ND		78	µg/Kg-dry	1	2/2/2022 05:37 PM
Methyl iodide	ND		650	µg/Kg-dry	1	2/2/2022 05:37 PM
Methyl tert-butyl ether	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Methylene chloride	ND		330	µg/Kg-dry	1	2/2/2022 05:37 PM
Naphthalene	ND		130	µg/Kg-dry	1	2/2/2022 05:37 PM
n-Propylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
o-Xylene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Styrene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Tetrachloroethene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Toluene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
trans-1,2-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
trans-1,3-Dichloropropene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-49 (2-3')
 Collection Date: 1/31/2022 11:45 AM

Work Order: 22020012
 Lab ID: 22020012-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Trichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Trichlorofluoromethane	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Vinyl acetate	ND		330	µg/Kg-dry	1	2/2/2022 05:37 PM
Vinyl chloride	ND		39	µg/Kg-dry	1	2/2/2022 05:37 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	2/2/2022 05:37 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	104		70-130	%REC	1	2/2/2022 05:37 PM
<i>Surr: 4-Bromofluorobenzene</i>	87.9		70-130	%REC	1	2/2/2022 05:37 PM
<i>Surr: Dibromofluoromethane</i>	97.8		70-130	%REC	1	2/2/2022 05:37 PM
<i>Surr: Toluene-d8</i>	105		70-130	%REC	1	2/2/2022 05:37 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-50 (1-2')
Collection Date: 1/31/2022 12:00 PM

Work Order: 22020012
Lab ID: 22020012-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 11:17 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 11:17 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 11:17 PM
<i>Surr: Decachlorobiphenyl</i>	75.8		60-138	%REC	1	2/2/2022 11:17 PM
<i>Surr: Tetrachloro-m-xylene</i>	88.9		65-125	%REC	1	2/2/2022 11:17 PM
MERCURY BY CVA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.12		0.014	mg/Kg	1	2/4/2022 02:47 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	5.4		0.39	mg/Kg	1	2/2/2022 10:13 PM
Barium	63		0.39	mg/Kg	1	2/2/2022 10:13 PM
Cadmium	0.19		0.16	mg/Kg	1	2/2/2022 10:13 PM
Chromium	11		0.39	mg/Kg	1	2/2/2022 10:13 PM
Copper	11		0.39	mg/Kg	1	2/2/2022 10:13 PM
Lead	69		0.39	mg/Kg	1	2/2/2022 10:13 PM
Selenium	ND		0.39	mg/Kg	1	2/2/2022 10:13 PM
Silver	ND		0.39	mg/Kg	1	2/2/2022 10:13 PM
Zinc	42		0.79	mg/Kg	1	2/2/2022 10:13 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/2/2022 11:13 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/2/2022 11:13 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/2/2022 11:13 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/2/2022 11:13 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/2/2022 11:13 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/2/2022 11:13 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-50 (1-2')
 Collection Date: 1/31/2022 12:00 PM

Work Order: 22020012
 Lab ID: 22020012-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/2/2022 11:13 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2-Methylnaphthalene	7.9		6.6	µg/Kg	1	2/2/2022 11:13 PM
2-Methylphenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 11:13 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/2/2022 11:13 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/2/2022 11:13 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 11:13 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/2/2022 11:13 PM
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/2/2022 11:13 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/2/2022 11:13 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/2/2022 11:13 PM
Acenaphthene	16		6.6	µg/Kg	1	2/2/2022 11:13 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/2/2022 11:13 PM
Acetophenone	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Anthracene	110		6.6	µg/Kg	1	2/2/2022 11:13 PM
Atrazine	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Benzaldehyde	ND		66	µg/Kg	1	2/2/2022 11:13 PM
Benzo(a)anthracene	420		6.6	µg/Kg	1	2/2/2022 11:13 PM
Benzo(a)pyrene	330		6.6	µg/Kg	1	2/2/2022 11:13 PM
Benzo(b)fluoranthene	530		6.6	µg/Kg	1	2/2/2022 11:13 PM
Benzo(g,h,i)perylene	210		6.6	µg/Kg	1	2/2/2022 11:13 PM
Benzo(k)fluoranthene	170		6.6	µg/Kg	1	2/2/2022 11:13 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Bis(2-ethylhexyl)phthalate	43		33	µg/Kg	1	2/2/2022 11:13 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/2/2022 11:13 PM
Caprolactam	ND		66	µg/Kg	1	2/2/2022 11:13 PM
Carbazole	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Chrysene	380		6.6	µg/Kg	1	2/2/2022 11:13 PM
Dibenzo(a,h)anthracene	55		6.6	µg/Kg	1	2/2/2022 11:13 PM
Dibenzofuran	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/2/2022 11:13 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-50 (1-2')
 Collection Date: 1/31/2022 12:00 PM

Work Order: 22020012
 Lab ID: 22020012-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	920		6.6	µg/Kg	1	2/2/2022 11:13 PM
Fluorene	22		6.6	µg/Kg	1	2/2/2022 11:13 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Hexachloroethane	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Indeno(1,2,3-cd)pyrene	270		6.6	µg/Kg	1	2/2/2022 11:13 PM
Isophorone	ND		170	µg/Kg	1	2/2/2022 11:13 PM
Naphthalene	ND		6.6	µg/Kg	1	2/2/2022 11:13 PM
Nitrobenzene	ND		170	µg/Kg	1	2/2/2022 11:13 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/2/2022 11:13 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Phenanthrene	400		6.6	µg/Kg	1	2/2/2022 11:13 PM
Phenol	ND		33	µg/Kg	1	2/2/2022 11:13 PM
Pyrene	730		6.6	µg/Kg	1	2/2/2022 11:13 PM
Surr: 2,4,6-Tribromophenol	68.6		38-92	%REC	1	2/2/2022 11:13 PM
Surr: 2-Fluorobiphenyl	66.4		44-107	%REC	1	2/2/2022 11:13 PM
Surr: 2-Fluorophenol	70.9		37-109	%REC	1	2/2/2022 11:13 PM
Surr: 4-Terphenyl-d14	72.6		52-123	%REC	1	2/2/2022 11:13 PM
Surr: Nitrobenzene-d5	69.8		41-94	%REC	1	2/2/2022 11:13 PM
Surr: Phenol-d6	83.2		28-111	%REC	1	2/2/2022 11:13 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1,1-Trichloroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1,2,2-Tetrachloroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1,2-Trichloroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1,2-Trichlorotrifluoroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1-Dichloroethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,1-Dichloroethene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2,3-Trichloropropane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2,4-Trichlorobenzene	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2,4-Trimethylbenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2-Dibromo-3-chloropropane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2-Dibromoethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2-Dichlorobenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2-Dichloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
1,2-Dichloropropane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,3,5-Trimethylbenzene	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-50 (1-2')
 Collection Date: 1/31/2022 12:00 PM

Work Order: 22020012
 Lab ID: 22020012-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
1,4-Dichlorobenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
2-Butanone	ND		270	µg/Kg-dry	1	2/2/2022 05:52 PM
2-Hexanone	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
2-Methylnaphthalene	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
4-Methyl-2-pentanone	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Acetone	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Acrylonitrile	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Benzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Bromochloromethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Bromodichloromethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Bromoform	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Bromomethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Carbon disulfide	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Carbon tetrachloride	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Chlorobenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Chloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Chloroform	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Chloromethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
cis-1,2-Dichloroethene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
cis-1,3-Dichloropropene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Dibromochloromethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Dibromomethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Dichlorodifluoromethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Diethyl ether	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Ethylbenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Hexachloroethane	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
Isopropylbenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
m,p-Xylene	ND		81	µg/Kg-dry	1	2/2/2022 05:52 PM
Methyl iodide	ND		670	µg/Kg-dry	1	2/2/2022 05:52 PM
Methyl tert-butyl ether	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Methylene chloride	ND		340	µg/Kg-dry	1	2/2/2022 05:52 PM
Naphthalene	ND		130	µg/Kg-dry	1	2/2/2022 05:52 PM
n-Propylbenzene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
o-Xylene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Styrene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Tetrachloroethene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Toluene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
trans-1,2-Dichloroethene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
trans-1,3-Dichloropropene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-50 (1-2')
Collection Date: 1/31/2022 12:00 PM

Work Order: 22020012
Lab ID: 22020012-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Trichloroethene	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Trichlorofluoromethane	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Vinyl acetate	ND		340	µg/Kg-dry	1	2/2/2022 05:52 PM
Vinyl chloride	ND		40	µg/Kg-dry	1	2/2/2022 05:52 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	2/2/2022 05:52 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	101		70-130	%REC	1	2/2/2022 05:52 PM
<i>Surr: 4-Bromofluorobenzene</i>	91.4		70-130	%REC	1	2/2/2022 05:52 PM
<i>Surr: Dibromofluoromethane</i>	101		70-130	%REC	1	2/2/2022 05:52 PM
<i>Surr: Toluene-d8</i>	106		70-130	%REC	1	2/2/2022 05:52 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	20		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-51 (3-4')
 Collection Date: 1/31/2022 01:40 PM

Work Order: 22020012
 Lab ID: 22020012-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 11:30 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 11:30 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 11:30 PM
<i>Surr: Decachlorobiphenyl</i>	61.9		60-138	%REC	1	2/2/2022 11:30 PM
<i>Surr: Tetrachloro-m-xylene</i>	84.1		65-125	%REC	1	2/2/2022 11:30 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.020		0.014	mg/Kg	1	2/4/2022 02:54 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	10		0.37	mg/Kg	1	2/2/2022 10:15 PM
Barium	270		3.7	mg/Kg	10	2/3/2022 02:55 PM
Cadmium	0.47		0.15	mg/Kg	1	2/2/2022 10:15 PM
Chromium	16		0.37	mg/Kg	1	2/2/2022 10:15 PM
Copper	5.9		0.37	mg/Kg	1	2/2/2022 10:15 PM
Lead	11		0.37	mg/Kg	1	2/2/2022 10:15 PM
Selenium	0.43		0.37	mg/Kg	1	2/2/2022 10:15 PM
Silver	ND		0.37	mg/Kg	1	2/2/2022 10:15 PM
Zinc	46		0.75	mg/Kg	1	2/2/2022 10:15 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		32	µg/Kg	1	2/2/2022 11:40 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/2/2022 11:40 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/2/2022 11:40 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,3,4,6-Tetrachlorophenol	ND		65	µg/Kg	1	2/2/2022 11:40 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,4-Dinitrophenol	ND		640	µg/Kg	1	2/2/2022 11:40 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/2/2022 11:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-51 (3-4')
Collection Date: 1/31/2022 01:40 PM

Work Order: 22020012
Lab ID: 22020012-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2-Methylnaphthalene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
2-Methylphenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 11:40 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/2/2022 11:40 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/2/2022 11:40 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 11:40 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
4-Chloroaniline	ND		65	µg/Kg	1	2/2/2022 11:40 PM
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/2/2022 11:40 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/2/2022 11:40 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/2/2022 11:40 PM
Acenaphthene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Acenaphthylene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Acetophenone	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Anthracene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Atrazine	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Benzaldehyde	ND		65	µg/Kg	1	2/2/2022 11:40 PM
Benzo(a)anthracene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Benzo(a)pyrene	7.1		6.4	µg/Kg	1	2/2/2022 11:40 PM
Benzo(b)fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Benzo(g,h,i)perylene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Benzo(k)fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Bis(2-ethylhexyl)phthalate	36		32	µg/Kg	1	2/2/2022 11:40 PM
Butyl benzyl phthalate	ND		65	µg/Kg	1	2/2/2022 11:40 PM
Caprolactam	ND		65	µg/Kg	1	2/2/2022 11:40 PM
Carbazole	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Chrysene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Dibenzo(a,h)anthracene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Dibenzofuran	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/2/2022 11:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-51 (3-4')
 Collection Date: 1/31/2022 01:40 PM

Work Order: 22020012
 Lab ID: 22020012-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Fluorene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Hexachloroethane	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Indeno(1,2,3-cd)pyrene	7.7		6.4	µg/Kg	1	2/2/2022 11:40 PM
Isophorone	ND		160	µg/Kg	1	2/2/2022 11:40 PM
Naphthalene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Nitrobenzene	ND		160	µg/Kg	1	2/2/2022 11:40 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/2/2022 11:40 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Phenanthrene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Phenol	ND		32	µg/Kg	1	2/2/2022 11:40 PM
Pyrene	ND		6.4	µg/Kg	1	2/2/2022 11:40 PM
Surr: 2,4,6-Tribromophenol	60.4		38-92	%REC	1	2/2/2022 11:40 PM
Surr: 2-Fluorobiphenyl	62.3		44-107	%REC	1	2/2/2022 11:40 PM
Surr: 2-Fluorophenol	66.2		37-109	%REC	1	2/2/2022 11:40 PM
Surr: 4-Terphenyl-d14	68.1		52-123	%REC	1	2/2/2022 11:40 PM
Surr: Nitrobenzene-d5	65.9		41-94	%REC	1	2/2/2022 11:40 PM
Surr: Phenol-d6	77.0		28-111	%REC	1	2/2/2022 11:40 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1,1-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1,2,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1,2-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1,2-Trichlorotrifluoroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1-Dichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,1-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2,3-Trichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2,4-Trimethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2-Dibromoethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
1,2-Dichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-51 (3-4')
 Collection Date: 1/31/2022 01:40 PM

Work Order: 22020012
 Lab ID: 22020012-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
1,4-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 06:08 PM
2-Hexanone	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
4-Methyl-2-pentanone	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Benzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Bromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Bromodichloromethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Bromoform	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Carbon disulfide	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Carbon tetrachloride	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Chlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Chloroform	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
cis-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
cis-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Dibromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Dibromomethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Diethyl ether	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
Isopropylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	2/2/2022 06:08 PM
Methyl iodide	ND		610	µg/Kg-dry	1	2/2/2022 06:08 PM
Methyl tert-butyl ether	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Methylene chloride	ND		310	µg/Kg-dry	1	2/2/2022 06:08 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 06:08 PM
n-Propylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
o-Xylene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Styrene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Tetrachloroethene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Toluene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
trans-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
trans-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-51 (3-4')
 Collection Date: 1/31/2022 01:40 PM

Work Order: 22020012
 Lab ID: 22020012-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Trichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Trichlorofluoromethane	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Vinyl acetate	ND		310	µg/Kg-dry	1	2/2/2022 06:08 PM
Vinyl chloride	ND		37	µg/Kg-dry	1	2/2/2022 06:08 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 06:08 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	105		70-130	%REC	1	2/2/2022 06:08 PM
<i>Surr: 4-Bromofluorobenzene</i>	92.6		70-130	%REC	1	2/2/2022 06:08 PM
<i>Surr: Dibromofluoromethane</i>	103		70-130	%REC	1	2/2/2022 06:08 PM
<i>Surr: Toluene-d8</i>	110		70-130	%REC	1	2/2/2022 06:08 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-52 (1-2')
 Collection Date: 1/31/2022 02:00 PM

Work Order: 22020012
 Lab ID: 22020012-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1221	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1232	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1242	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1248	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1254	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1260	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1262	ND		65	µg/Kg	1	2/2/2022 11:43 PM
Aroclor 1268	ND		65	µg/Kg	1	2/2/2022 11:43 PM
PCBs, Total	ND		65	µg/Kg	1	2/2/2022 11:43 PM
<i>Surr: Decachlorobiphenyl</i>	78.5		60-138	%REC	1	2/2/2022 11:43 PM
<i>Surr: Tetrachloro-m-xylene</i>	85.6		65-125	%REC	1	2/2/2022 11:43 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.032		0.014	mg/Kg	1	2/4/2022 02:56 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	9.2		0.38	mg/Kg	1	2/2/2022 10:18 PM
Barium	65		0.38	mg/Kg	1	2/2/2022 10:18 PM
Cadmium	0.85		0.15	mg/Kg	1	2/2/2022 10:18 PM
Chromium	36		0.38	mg/Kg	1	2/2/2022 10:18 PM
Copper	940		38	mg/Kg	100	2/3/2022 03:03 PM
Lead	190		38	mg/Kg	100	2/3/2022 03:03 PM
Selenium	ND		0.38	mg/Kg	1	2/2/2022 10:18 PM
Silver	ND		0.38	mg/Kg	1	2/2/2022 10:18 PM
Zinc	420		76	mg/Kg	100	2/3/2022 03:03 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/2/22 12:11	Analyst: EEW	
1,1'-Biphenyl	ND		160	µg/Kg	5	2/3/2022 01:28 AM
1,2,4,5-Tetrachlorobenzene	ND		810	µg/Kg	5	2/3/2022 01:28 AM
1,4-Dioxane	ND		810	µg/Kg	5	2/3/2022 01:28 AM
2,2'-Oxybis(1-chloropropane)	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,3,4,6-Tetrachlorophenol	ND		330	µg/Kg	5	2/3/2022 01:28 AM
2,4,5-Trichlorophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,4,6-Trichlorophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,4-Dichlorophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,4-Dimethylphenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,4-Dinitrophenol	ND		3,200	µg/Kg	5	2/3/2022 01:28 AM
2,4-Dinitrotoluene	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2,6-Dinitrotoluene	ND		160	µg/Kg	5	2/3/2022 01:28 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-52 (1-2')
 Collection Date: 1/31/2022 02:00 PM

Work Order: 22020012
 Lab ID: 22020012-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		32	µg/Kg	5	2/3/2022 01:28 AM
2-Chlorophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2-Methylnaphthalene	110		32	µg/Kg	5	2/3/2022 01:28 AM
2-Methylphenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2-Nitroaniline	ND		160	µg/Kg	5	2/3/2022 01:28 AM
2-Nitrophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
3&4-Methylphenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
3,3'-Dichlorobenzidine	ND		810	µg/Kg	5	2/3/2022 01:28 AM
3-Nitroaniline	ND		160	µg/Kg	5	2/3/2022 01:28 AM
4,6-Dinitro-2-methylphenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
4-Bromophenyl phenyl ether	ND		160	µg/Kg	5	2/3/2022 01:28 AM
4-Chloro-3-methylphenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
4-Chloroaniline	ND		330	µg/Kg	5	2/3/2022 01:28 AM
4-Chlorophenyl phenyl ether	ND		160	µg/Kg	5	2/3/2022 01:28 AM
4-Nitroaniline	ND		810	µg/Kg	5	2/3/2022 01:28 AM
4-Nitrophenol	ND		810	µg/Kg	5	2/3/2022 01:28 AM
Acenaphthene	ND		32	µg/Kg	5	2/3/2022 01:28 AM
Acenaphthylene	ND		32	µg/Kg	5	2/3/2022 01:28 AM
Acetophenone	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Anthracene	ND		32	µg/Kg	5	2/3/2022 01:28 AM
Atrazine	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Benzaldehyde	ND		330	µg/Kg	5	2/3/2022 01:28 AM
Benzo(a)anthracene	110		32	µg/Kg	5	2/3/2022 01:28 AM
Benzo(a)pyrene	160		32	µg/Kg	5	2/3/2022 01:28 AM
Benzo(b)fluoranthene	250		32	µg/Kg	5	2/3/2022 01:28 AM
Benzo(g,h,i)perylene	130		32	µg/Kg	5	2/3/2022 01:28 AM
Benzo(k)fluoranthene	88		32	µg/Kg	5	2/3/2022 01:28 AM
Bis(2-chloroethoxy)methane	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Bis(2-chloroethyl)ether	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Bis(2-ethylhexyl)phthalate	220		160	µg/Kg	5	2/3/2022 01:28 AM
Butyl benzyl phthalate	ND		330	µg/Kg	5	2/3/2022 01:28 AM
Caprolactam	ND		330	µg/Kg	5	2/3/2022 01:28 AM
Carbazole	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Chrysene	150		32	µg/Kg	5	2/3/2022 01:28 AM
Dibenzo(a,h)anthracene	49		32	µg/Kg	5	2/3/2022 01:28 AM
Dibenzofuran	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Diethyl phthalate	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Dimethyl phthalate	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Di-n-butyl phthalate	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Di-n-octyl phthalate	ND		160	µg/Kg	5	2/3/2022 01:28 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-52 (1-2')
 Collection Date: 1/31/2022 02:00 PM

Work Order: 22020012
 Lab ID: 22020012-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	280		32	µg/Kg	5	2/3/2022 01:28 AM
Fluorene	ND		32	µg/Kg	5	2/3/2022 01:28 AM
Hexachlorobenzene	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Hexachlorobutadiene	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Hexachlorocyclopentadiene	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Hexachloroethane	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Indeno(1,2,3-cd)pyrene	160		32	µg/Kg	5	2/3/2022 01:28 AM
Isophorone	ND		810	µg/Kg	5	2/3/2022 01:28 AM
Naphthalene	75		32	µg/Kg	5	2/3/2022 01:28 AM
Nitrobenzene	ND		810	µg/Kg	5	2/3/2022 01:28 AM
N-Nitrosodi-n-propylamine	ND		160	µg/Kg	5	2/3/2022 01:28 AM
N-Nitrosodiphenylamine	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Pentachlorophenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Phenanthrene	180		32	µg/Kg	5	2/3/2022 01:28 AM
Phenol	ND		160	µg/Kg	5	2/3/2022 01:28 AM
Pyrene	260		32	µg/Kg	5	2/3/2022 01:28 AM
Surr: 2,4,6-Tribromophenol	67.8		38-92	%REC	5	2/3/2022 01:28 AM
Surr: 2-Fluorobiphenyl	69.4		44-107	%REC	5	2/3/2022 01:28 AM
Surr: 2-Fluorophenol	72.2		37-109	%REC	5	2/3/2022 01:28 AM
Surr: 4-Terphenyl-d14	81.6		52-123	%REC	5	2/3/2022 01:28 AM
Surr: Nitrobenzene-d5	68.1		41-94	%REC	5	2/3/2022 01:28 AM
Surr: Phenol-d6	86.3		28-111	%REC	5	2/3/2022 01:28 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 13:40

Analyst: **JNS**

1,1,1,2-Tetrachloroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1,1-Trichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1,2,2-Tetrachloroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1,2-Trichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1,2-Trichlorotrifluoroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1-Dichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,1-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2,3-Trichloropropane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2,4-Trichlorobenzene	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2,4-Trimethylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2-Dibromo-3-chloropropane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2-Dibromoethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2-Dichloroethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
1,2-Dichloropropane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,3,5-Trimethylbenzene	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-52 (1-2')
Collection Date: 1/31/2022 02:00 PM

Work Order: 22020012
Lab ID: 22020012-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
1,4-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
2-Butanone	ND		280	µg/Kg-dry	1	2/2/2022 06:24 PM
2-Hexanone	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
2-Methylnaphthalene	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
4-Methyl-2-pentanone	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Acetone	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Acrylonitrile	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Benzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Bromochloromethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Bromodichloromethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Bromoform	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Bromomethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Carbon disulfide	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Carbon tetrachloride	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Chlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Chloroethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Chloroform	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Chloromethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
cis-1,2-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
cis-1,3-Dichloropropene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Dibromochloromethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Dibromomethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Dichlorodifluoromethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Diethyl ether	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Ethylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Hexachloroethane	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
Isopropylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
m,p-Xylene	ND		85	µg/Kg-dry	1	2/2/2022 06:24 PM
Methyl iodide	ND		710	µg/Kg-dry	1	2/2/2022 06:24 PM
Methyl tert-butyl ether	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Methylene chloride	ND		350	µg/Kg-dry	1	2/2/2022 06:24 PM
Naphthalene	ND		140	µg/Kg-dry	1	2/2/2022 06:24 PM
n-Propylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
o-Xylene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Styrene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Tetrachloroethene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Toluene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
trans-1,2-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
trans-1,3-Dichloropropene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-52 (1-2')
 Collection Date: 1/31/2022 02:00 PM

Work Order: 22020012
 Lab ID: 22020012-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Trichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Trichlorofluoromethane	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Vinyl acetate	ND		350	µg/Kg-dry	1	2/2/2022 06:24 PM
Vinyl chloride	ND		42	µg/Kg-dry	1	2/2/2022 06:24 PM
Xylenes, Total	ND		130	µg/Kg-dry	1	2/2/2022 06:24 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	114		70-130	%REC	1	2/2/2022 06:24 PM
<i>Surr: 4-Bromofluorobenzene</i>	93.0		70-130	%REC	1	2/2/2022 06:24 PM
<i>Surr: Dibromofluoromethane</i>	104		70-130	%REC	1	2/2/2022 06:24 PM
<i>Surr: Toluene-d8</i>	103		70-130	%REC	1	2/2/2022 06:24 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	20		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-53 (2-3')
 Collection Date: 1/31/2022 02:15 PM

Work Order: 22020012
 Lab ID: 22020012-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 11:55 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 11:55 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 11:55 PM
<i>Surr: Decachlorobiphenyl</i>	71.2		60-138	%REC	1	2/2/2022 11:55 PM
<i>Surr: Tetrachloro-m-xylene</i>	92.7		65-125	%REC	1	2/2/2022 11:55 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.026		0.014	mg/Kg	1	2/4/2022 02:58 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	5.7		0.37	mg/Kg	1	2/2/2022 10:20 PM
Barium	52		0.37	mg/Kg	1	2/2/2022 10:20 PM
Cadmium	ND		0.15	mg/Kg	1	2/2/2022 10:20 PM
Chromium	11		0.37	mg/Kg	1	2/2/2022 10:20 PM
Copper	9.5		0.37	mg/Kg	1	2/2/2022 10:20 PM
Lead	12		0.37	mg/Kg	1	2/2/2022 10:20 PM
Selenium	ND		0.37	mg/Kg	1	2/2/2022 10:20 PM
Silver	ND		0.37	mg/Kg	1	2/2/2022 10:20 PM
Zinc	34		0.74	mg/Kg	1	2/2/2022 10:20 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33	Analyst: EE	
1,1'-Biphenyl	ND		32	µg/Kg	1	2/4/2022 06:20 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/4/2022 06:20 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/4/2022 06:20 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,3,4,6-Tetrachlorophenol	ND		65	µg/Kg	1	2/4/2022 06:20 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/4/2022 06:20 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 06:20 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-53 (2-3')
 Collection Date: 1/31/2022 02:15 PM

Work Order: 22020012
 Lab ID: 22020012-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2-Methylnaphthalene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
2-Methylphenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 06:20 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/4/2022 06:20 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 06:20 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 06:20 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
4-Chloroaniline	ND		65	µg/Kg	1	2/4/2022 06:20 PM
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 06:20 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/4/2022 06:20 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/4/2022 06:20 PM
Acenaphthene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
Acetophenone	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Anthracene	35		6.5	µg/Kg	1	2/4/2022 06:20 PM
Atrazine	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Benzaldehyde	ND		65	µg/Kg	1	2/4/2022 06:20 PM
Benzo(a)anthracene	250		6.5	µg/Kg	1	2/4/2022 06:20 PM
Benzo(a)pyrene	240		6.5	µg/Kg	1	2/4/2022 06:20 PM
Benzo(b)fluoranthene	270		6.5	µg/Kg	1	2/4/2022 06:20 PM
Benzo(g,h,i)perylene	120		6.5	µg/Kg	1	2/4/2022 06:20 PM
Benzo(k)fluoranthene	110		6.5	µg/Kg	1	2/4/2022 06:20 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Butyl benzyl phthalate	ND		65	µg/Kg	1	2/4/2022 06:20 PM
Caprolactam	ND		65	µg/Kg	1	2/4/2022 06:20 PM
Carbazole	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Chrysene	200		6.5	µg/Kg	1	2/4/2022 06:20 PM
Dibenzo(a,h)anthracene	27		6.5	µg/Kg	1	2/4/2022 06:20 PM
Dibenzofuran	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:20 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-53 (2-3')
Collection Date: 1/31/2022 02:15 PM

Work Order: 22020012
Lab ID: 22020012-11
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	420		6.5	µg/Kg	1	2/4/2022 06:20 PM
Fluorene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Hexachloroethane	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Indeno(1,2,3-cd)pyrene	160		6.5	µg/Kg	1	2/4/2022 06:20 PM
Isophorone	ND		160	µg/Kg	1	2/4/2022 06:20 PM
Naphthalene	ND		6.5	µg/Kg	1	2/4/2022 06:20 PM
Nitrobenzene	ND		160	µg/Kg	1	2/4/2022 06:20 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/4/2022 06:20 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Phenanthrene	71		6.5	µg/Kg	1	2/4/2022 06:20 PM
Phenol	ND		32	µg/Kg	1	2/4/2022 06:20 PM
Pyrene	390		6.5	µg/Kg	1	2/4/2022 06:20 PM
Surr: 2,4,6-Tribromophenol	64.2		38-92	%REC	1	2/4/2022 06:20 PM
Surr: 2-Fluorobiphenyl	78.2		44-107	%REC	1	2/4/2022 06:20 PM
Surr: 2-Fluorophenol	63.5		37-109	%REC	1	2/4/2022 06:20 PM
Surr: 4-Terphenyl-d14	81.0		52-123	%REC	1	2/4/2022 06:20 PM
Surr: Nitrobenzene-d5	70.4		41-94	%REC	1	2/4/2022 06:20 PM
Surr: Phenol-d6	67.8		28-111	%REC	1	2/4/2022 06:20 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 15:52

Analyst: **JNS**

1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2,4-Trimethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-53 (2-3')
 Collection Date: 1/31/2022 02:15 PM

Work Order: 22020012
 Lab ID: 22020012-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 08:29 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Benzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Bromoform	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Carbon disulfide	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Chloroform	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
Isopropylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	2/2/2022 08:29 PM
Methyl iodide	ND		610	µg/Kg-dry	1	2/2/2022 08:29 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/2/2022 08:29 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 08:29 PM
n-Propylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
o-Xylene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Styrene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Toluene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-53 (2-3')
 Collection Date: 1/31/2022 02:15 PM

Work Order: 22020012
 Lab ID: 22020012-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/2/2022 08:29 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/2/2022 08:29 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 08:29 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	2/2/2022 08:29 PM
Surr: 4-Bromofluorobenzene	91.9		70-130	%REC	1	2/2/2022 08:29 PM
Surr: Dibromofluoromethane	101		70-130	%REC	1	2/2/2022 08:29 PM
Surr: Toluene-d8	105		70-130	%REC	1	2/2/2022 08:29 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	13		0.10	% of sample	1	2/2/2022 12:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-54 (2-3')
 Collection Date: 1/31/2022 02:40 PM

Work Order: 22020012
 Lab ID: 22020012-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/2/22 15:03	Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1221	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1232	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1242	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1248	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1254	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1260	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1262	ND		66	µg/Kg	1	2/3/2022 12:08 AM
Aroclor 1268	ND		66	µg/Kg	1	2/3/2022 12:08 AM
PCBs, Total	ND		66	µg/Kg	1	2/3/2022 12:08 AM
<i>Surr: Decachlorobiphenyl</i>	60.1		60-138	%REC	1	2/3/2022 12:08 AM
<i>Surr: Tetrachloro-m-xylene</i>	76.5		65-125	%REC	1	2/3/2022 12:08 AM
MERCURY BY CVA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.073		0.014	mg/Kg	1	2/4/2022 02:59 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	5.6		0.41	mg/Kg	1	2/2/2022 10:22 PM
Barium	76		0.41	mg/Kg	1	2/2/2022 10:22 PM
Cadmium	0.44		0.16	mg/Kg	1	2/2/2022 10:22 PM
Chromium	17		0.41	mg/Kg	1	2/2/2022 10:22 PM
Copper	15		0.41	mg/Kg	1	2/2/2022 10:22 PM
Lead	63		0.41	mg/Kg	1	2/2/2022 10:22 PM
Selenium	0.51		0.41	mg/Kg	1	2/2/2022 10:22 PM
Silver	ND		0.41	mg/Kg	1	2/2/2022 10:22 PM
Zinc	100		0.81	mg/Kg	1	2/2/2022 10:22 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33	Analyst: EE	
1,1'-Biphenyl	ND		320	µg/Kg	10	2/4/2022 09:24 PM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,3,4,6-Tetrachlorophenol	ND		650	µg/Kg	10	2/4/2022 09:24 PM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,4-Dinitrophenol	ND		6,500	µg/Kg	10	2/4/2022 09:24 PM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/4/2022 09:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-54 (2-3')
Collection Date: 1/31/2022 02:40 PM

Work Order: 22020012
Lab ID: 22020012-12
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
2-Chlorophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2-Methylnaphthalene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
2-Methylphenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2-Nitroaniline	ND		320	µg/Kg	10	2/4/2022 09:24 PM
2-Nitrophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
3&4-Methylphenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
3-Nitroaniline	ND		320	µg/Kg	10	2/4/2022 09:24 PM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/4/2022 09:24 PM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
4-Chloroaniline	ND		650	µg/Kg	10	2/4/2022 09:24 PM
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/4/2022 09:24 PM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
Acenaphthene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Acenaphthylene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Acetophenone	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Anthracene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Atrazine	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Benzaldehyde	ND		650	µg/Kg	10	2/4/2022 09:24 PM
Benzo(a)anthracene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Benzo(a)pyrene	160		65	µg/Kg	10	2/4/2022 09:24 PM
Benzo(b)fluoranthene	200		65	µg/Kg	10	2/4/2022 09:24 PM
Benzo(g,h,i)perylene	91		65	µg/Kg	10	2/4/2022 09:24 PM
Benzo(k)fluoranthene	84		65	µg/Kg	10	2/4/2022 09:24 PM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Bis(2-ethylhexyl)phthalate	430		320	µg/Kg	10	2/4/2022 09:24 PM
Butyl benzyl phthalate	ND		650	µg/Kg	10	2/4/2022 09:24 PM
Caprolactam	ND		650	µg/Kg	10	2/4/2022 09:24 PM
Carbazole	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Chrysene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Dibenzo(a,h)anthracene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Dibenzofuran	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Diethyl phthalate	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Dimethyl phthalate	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/4/2022 09:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-54 (2-3')
 Collection Date: 1/31/2022 02:40 PM

Work Order: 22020012
 Lab ID: 22020012-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	250		65	µg/Kg	10	2/4/2022 09:24 PM
Fluorene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Hexachlorobenzene	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Hexachloroethane	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Indeno(1,2,3-cd)pyrene	150		65	µg/Kg	10	2/4/2022 09:24 PM
Isophorone	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
Naphthalene	ND		65	µg/Kg	10	2/4/2022 09:24 PM
Nitrobenzene	ND		1,600	µg/Kg	10	2/4/2022 09:24 PM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/4/2022 09:24 PM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Pentachlorophenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Phenanthrene	91		65	µg/Kg	10	2/4/2022 09:24 PM
Phenol	ND		320	µg/Kg	10	2/4/2022 09:24 PM
Pyrene	170		65	µg/Kg	10	2/4/2022 09:24 PM
Surr: 2,4,6-Tribromophenol	77.0		38-92	%REC	10	2/4/2022 09:24 PM
Surr: 2-Fluorobiphenyl	69.4		44-107	%REC	10	2/4/2022 09:24 PM
Surr: 2-Fluorophenol	53.8		37-109	%REC	10	2/4/2022 09:24 PM
Surr: 4-Terphenyl-d14	76.4		52-123	%REC	10	2/4/2022 09:24 PM
Surr: Nitrobenzene-d5	72.6		41-94	%REC	10	2/4/2022 09:24 PM
Surr: Phenol-d6	67.2		28-111	%REC	10	2/4/2022 09:24 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 15:52

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1,1-Trichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1,2,2-Tetrachloroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1,2-Trichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1,2-Trichlorotrifluoroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1-Dichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,1-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2,3-Trichloropropane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2,4-Trichlorobenzene	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2,4-Trimethylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2-Dibromo-3-chloropropane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2-Dibromoethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2-Dichloroethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
1,2-Dichloropropane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,3,5-Trimethylbenzene	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-54 (2-3')
 Collection Date: 1/31/2022 02:40 PM

Work Order: 22020012
 Lab ID: 22020012-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
1,4-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
2-Butanone	ND		330	µg/Kg-dry	1	2/2/2022 06:39 PM
2-Hexanone	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
2-Methylnaphthalene	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
4-Methyl-2-pentanone	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Acetone	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Acrylonitrile	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Benzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Bromochloromethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Bromodichloromethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Bromoform	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Bromomethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Carbon disulfide	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Carbon tetrachloride	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Chlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Chloroethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Chloroform	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Chloromethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
cis-1,2-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
cis-1,3-Dichloropropene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Dibromochloromethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Dibromomethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Dichlorodifluoromethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Diethyl ether	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Ethylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Hexachloroethane	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
Isopropylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
m,p-Xylene	ND		98	µg/Kg-dry	1	2/2/2022 06:39 PM
Methyl iodide	ND		820	µg/Kg-dry	1	2/2/2022 06:39 PM
Methyl tert-butyl ether	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Methylene chloride	ND		410	µg/Kg-dry	1	2/2/2022 06:39 PM
Naphthalene	ND		160	µg/Kg-dry	1	2/2/2022 06:39 PM
n-Propylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
o-Xylene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Styrene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Tetrachloroethene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Toluene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
trans-1,2-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
trans-1,3-Dichloropropene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-54 (2-3')
 Collection Date: 1/31/2022 02:40 PM

Work Order: 22020012
 Lab ID: 22020012-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Trichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Trichlorofluoromethane	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Vinyl acetate	ND		410	µg/Kg-dry	1	2/2/2022 06:39 PM
Vinyl chloride	ND		49	µg/Kg-dry	1	2/2/2022 06:39 PM
Xylenes, Total	ND		150	µg/Kg-dry	1	2/2/2022 06:39 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	103		70-130	%REC	1	2/2/2022 06:39 PM
<i>Surr: 4-Bromofluorobenzene</i>	94.6		70-130	%REC	1	2/2/2022 06:39 PM
<i>Surr: Dibromofluoromethane</i>	95.1		70-130	%REC	1	2/2/2022 06:39 PM
<i>Surr: Toluene-d8</i>	107		70-130	%REC	1	2/2/2022 06:39 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	25		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-55 (0-1')
 Collection Date: 1/31/2022 03:00 PM

Work Order: 22020012
 Lab ID: 22020012-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A		Prep: SW3546 2/4/22 14:04	Analyst: RM
Aroclor 1016	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1221	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1232	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1242	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1248	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1254	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1260	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1262	ND		290	µg/Kg	1	2/7/2022 12:52 PM
Aroclor 1268	ND		290	µg/Kg	1	2/7/2022 12:52 PM
PCBs, Total	ND		290	µg/Kg	1	2/7/2022 12:52 PM
<i>Surr: Decachlorobiphenyl</i>	77.6		60-138	%REC	1	2/7/2022 12:52 PM
<i>Surr: Tetrachloro-m-xylene</i>	92.9		65-125	%REC	1	2/7/2022 12:52 PM
MERCURY BY CVA			SW7471B		Prep: SW7471 2/4/22 11:29	Analyst: EJC
Mercury	0.054		0.014	mg/Kg	1	2/4/2022 03:01 PM
METALS BY ICP-MS			SW6020B		Prep: SW3050B 2/2/22 13:16	Analyst: STP
Arsenic	10		0.37	mg/Kg	1	2/2/2022 10:45 PM
Barium	120		0.37	mg/Kg	1	2/2/2022 10:45 PM
Cadmium	0.35		0.15	mg/Kg	1	2/2/2022 10:45 PM
Chromium	6.4		0.37	mg/Kg	1	2/2/2022 10:45 PM
Copper	29		0.37	mg/Kg	1	2/2/2022 10:45 PM
Lead	86		0.37	mg/Kg	1	2/2/2022 10:45 PM
Selenium	0.44		0.37	mg/Kg	1	2/2/2022 10:45 PM
Silver	ND		0.37	mg/Kg	1	2/2/2022 10:45 PM
Zinc	87		0.74	mg/Kg	1	2/2/2022 10:45 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 2/3/22 15:33	Analyst: EE
1,1'-Biphenyl	ND		240	µg/Kg	1	2/4/2022 06:41 PM
1,2,4,5-Tetrachlorobenzene	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
1,4-Dioxane	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
2,2'-Oxybis(1-chloropropane)	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,3,4,6-Tetrachlorophenol	ND		490	µg/Kg	1	2/4/2022 06:41 PM
2,4,5-Trichlorophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,4,6-Trichlorophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,4-Dichlorophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,4-Dimethylphenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,4-Dinitrophenol	ND		4,900	µg/Kg	1	2/4/2022 06:41 PM
2,4-Dinitrotoluene	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2,6-Dinitrotoluene	ND		240	µg/Kg	1	2/4/2022 06:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-55 (0-1')
Collection Date: 1/31/2022 03:00 PM

Work Order: 22020012
Lab ID: 22020012-13
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		49	µg/Kg	1	2/4/2022 06:41 PM
2-Chlorophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2-Methylnaphthalene	1,200		49	µg/Kg	1	2/4/2022 06:41 PM
2-Methylphenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2-Nitroaniline	ND		240	µg/Kg	1	2/4/2022 06:41 PM
2-Nitrophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
3&4-Methylphenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
3,3'-Dichlorobenzidine	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
3-Nitroaniline	ND		240	µg/Kg	1	2/4/2022 06:41 PM
4,6-Dinitro-2-methylphenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
4-Bromophenyl phenyl ether	ND		240	µg/Kg	1	2/4/2022 06:41 PM
4-Chloro-3-methylphenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
4-Chloroaniline	ND		490	µg/Kg	1	2/4/2022 06:41 PM
4-Chlorophenyl phenyl ether	ND		240	µg/Kg	1	2/4/2022 06:41 PM
4-Nitroaniline	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
4-Nitrophenol	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
Acenaphthene	ND		49	µg/Kg	1	2/4/2022 06:41 PM
Acenaphthylene	ND		49	µg/Kg	1	2/4/2022 06:41 PM
Acetophenone	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Anthracene	200		49	µg/Kg	1	2/4/2022 06:41 PM
Atrazine	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Benzaldehyde	ND		490	µg/Kg	1	2/4/2022 06:41 PM
Benzo(a)anthracene	990		49	µg/Kg	1	2/4/2022 06:41 PM
Benzo(a)pyrene	1,100		49	µg/Kg	1	2/4/2022 06:41 PM
Benzo(b)fluoranthene	1,600		49	µg/Kg	1	2/4/2022 06:41 PM
Benzo(g,h,i)perylene	770		49	µg/Kg	1	2/4/2022 06:41 PM
Benzo(k)fluoranthene	480		49	µg/Kg	1	2/4/2022 06:41 PM
Bis(2-chloroethoxy)methane	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Bis(2-chloroethyl)ether	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Bis(2-ethylhexyl)phthalate	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Butyl benzyl phthalate	ND		490	µg/Kg	1	2/4/2022 06:41 PM
Caprolactam	ND		490	µg/Kg	1	2/4/2022 06:41 PM
Carbazole	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Chrysene	1,300		49	µg/Kg	1	2/4/2022 06:41 PM
Dibenzo(a,h)anthracene	220		49	µg/Kg	1	2/4/2022 06:41 PM
Dibenzofuran	410		240	µg/Kg	1	2/4/2022 06:41 PM
Diethyl phthalate	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Dimethyl phthalate	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Di-n-butyl phthalate	260		240	µg/Kg	1	2/4/2022 06:41 PM
Di-n-octyl phthalate	ND		240	µg/Kg	1	2/4/2022 06:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-55 (0-1')
Collection Date: 1/31/2022 03:00 PM

Work Order: 22020012
Lab ID: 22020012-13
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	1,700		49	µg/Kg	1	2/4/2022 06:41 PM
Fluorene	ND		49	µg/Kg	1	2/4/2022 06:41 PM
Hexachlorobenzene	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Hexachlorobutadiene	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Hexachlorocyclopentadiene	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Hexachloroethane	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Indeno(1,2,3-cd)pyrene	900		49	µg/Kg	1	2/4/2022 06:41 PM
Isophorone	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
Naphthalene	610		49	µg/Kg	1	2/4/2022 06:41 PM
Nitrobenzene	ND		1,200	µg/Kg	1	2/4/2022 06:41 PM
N-Nitrosodi-n-propylamine	ND		240	µg/Kg	1	2/4/2022 06:41 PM
N-Nitrosodiphenylamine	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Pentachlorophenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Phenanthrene	1,800		49	µg/Kg	1	2/4/2022 06:41 PM
Phenol	ND		240	µg/Kg	1	2/4/2022 06:41 PM
Pyrene	1,700		49	µg/Kg	1	2/4/2022 06:41 PM
Surr: 2,4,6-Tribromophenol	74.8		38-92	%REC	1	2/4/2022 06:41 PM
Surr: 2-Fluorobiphenyl	82.9		44-107	%REC	1	2/4/2022 06:41 PM
Surr: 2-Fluorophenol	69.8		37-109	%REC	1	2/4/2022 06:41 PM
Surr: 4-Terphenyl-d14	92.1		52-123	%REC	1	2/4/2022 06:41 PM
Surr: Nitrobenzene-d5	75.7		41-94	%REC	1	2/4/2022 06:41 PM
Surr: Phenol-d6	76.7		28-111	%REC	1	2/4/2022 06:41 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 15:52

Analyst: **JNS**

1,1,1,2-Tetrachloroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1,1,1-Trichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1,2,2-Tetrachloroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1,2-Trichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1,2-Trichlorotrifluoroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1-Dichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,1-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2,3-Trichloropropane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2,4-Trichlorobenzene	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2,4-Trimethylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2-Dibromo-3-chloropropane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2-Dibromoethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2-Dichloroethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
1,2-Dichloropropane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,3,5-Trimethylbenzene	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-55 (0-1')
 Collection Date: 1/31/2022 03:00 PM

Work Order: 22020012
 Lab ID: 22020012-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
1,4-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
2-Butanone	ND		310	µg/Kg-dry	1	2/2/2022 06:55 PM
2-Hexanone	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
2-Methylnaphthalene	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
4-Methyl-2-pentanone	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Acetone	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Acrylonitrile	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Benzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Bromochloromethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Bromodichloromethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Bromoform	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Bromomethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Carbon disulfide	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Carbon tetrachloride	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Chlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Chloroethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Chloroform	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Chloromethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
cis-1,2-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
cis-1,3-Dichloropropene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Dibromochloromethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Dibromomethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Dichlorodifluoromethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Diethyl ether	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Ethylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Hexachloroethane	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
Isopropylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
m,p-Xylene	ND		92	µg/Kg-dry	1	2/2/2022 06:55 PM
Methyl iodide	ND		770	µg/Kg-dry	1	2/2/2022 06:55 PM
Methyl tert-butyl ether	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Methylene chloride	ND		380	µg/Kg-dry	1	2/2/2022 06:55 PM
Naphthalene	ND		150	µg/Kg-dry	1	2/2/2022 06:55 PM
n-Propylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
o-Xylene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Styrene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Tetrachloroethene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Toluene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
trans-1,2-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
trans-1,3-Dichloropropene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-55 (0-1')
 Collection Date: 1/31/2022 03:00 PM

Work Order: 22020012
 Lab ID: 22020012-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Trichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Trichlorofluoromethane	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Vinyl acetate	ND		380	µg/Kg-dry	1	2/2/2022 06:55 PM
Vinyl chloride	ND		46	µg/Kg-dry	1	2/2/2022 06:55 PM
Xylenes, Total	ND		140	µg/Kg-dry	1	2/2/2022 06:55 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	106		70-130	%REC	1	2/2/2022 06:55 PM
<i>Surr: 4-Bromofluorobenzene</i>	97.3		70-130	%REC	1	2/2/2022 06:55 PM
<i>Surr: Dibromofluoromethane</i>	107		70-130	%REC	1	2/2/2022 06:55 PM
<i>Surr: Toluene-d8</i>	108		70-130	%REC	1	2/2/2022 06:55 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	19		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-56 (1-2')
Collection Date: 1/31/2022 03:30 PM

Work Order: 22020012
Lab ID: 22020012-14
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04	Analyst: RM	
Aroclor 1016	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1221	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1232	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1242	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1248	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1254	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1260	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1262	ND		65	µg/Kg	1	2/7/2022 01:05 PM
Aroclor 1268	ND		65	µg/Kg	1	2/7/2022 01:05 PM
PCBs, Total	ND		65	µg/Kg	1	2/7/2022 01:05 PM
<i>Surr: Decachlorobiphenyl</i>	67.4		60-138	%REC	1	2/7/2022 01:05 PM
<i>Surr: Tetrachloro-m-xylene</i>	95.2		65-125	%REC	1	2/7/2022 01:05 PM
MERCURY BY CVA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.019		0.014	mg/Kg	1	2/4/2022 03:03 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	2.3		0.35	mg/Kg	1	2/2/2022 10:47 PM
Barium	35		0.35	mg/Kg	1	2/2/2022 10:47 PM
Cadmium	ND		0.14	mg/Kg	1	2/2/2022 10:47 PM
Chromium	7.5		0.35	mg/Kg	1	2/2/2022 10:47 PM
Copper	2.8		0.35	mg/Kg	1	2/2/2022 10:47 PM
Lead	5.6		0.35	mg/Kg	1	2/2/2022 10:47 PM
Selenium	ND		0.35	mg/Kg	1	2/2/2022 10:47 PM
Silver	ND		0.35	mg/Kg	1	2/2/2022 10:47 PM
Zinc	26		0.69	mg/Kg	1	2/2/2022 10:47 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33	Analyst: EE	
1,1'-Biphenyl	ND		33	µg/Kg	1	2/4/2022 07:01 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/4/2022 07:01 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/4/2022 07:01 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/4/2022 07:01 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,4-Dinitrophenol	ND		670	µg/Kg	1	2/4/2022 07:01 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 07:01 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-56 (1-2')
 Collection Date: 1/31/2022 03:30 PM

Work Order: 22020012
 Lab ID: 22020012-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2-Methylnaphthalene	8.0		6.7	µg/Kg	1	2/4/2022 07:01 PM
2-Methylphenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 07:01 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/4/2022 07:01 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 07:01 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 07:01 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/4/2022 07:01 PM
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 07:01 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/4/2022 07:01 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/4/2022 07:01 PM
Acenaphthene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Acenaphthylene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Acetophenone	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Anthracene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Atrazine	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Benzaldehyde	ND		67	µg/Kg	1	2/4/2022 07:01 PM
Benzo(a)anthracene	22		6.7	µg/Kg	1	2/4/2022 07:01 PM
Benzo(a)pyrene	25		6.7	µg/Kg	1	2/4/2022 07:01 PM
Benzo(b)fluoranthene	31		6.7	µg/Kg	1	2/4/2022 07:01 PM
Benzo(g,h,i)perylene	17		6.7	µg/Kg	1	2/4/2022 07:01 PM
Benzo(k)fluoranthene	13		6.7	µg/Kg	1	2/4/2022 07:01 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/4/2022 07:01 PM
Caprolactam	ND		67	µg/Kg	1	2/4/2022 07:01 PM
Carbazole	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Chrysene	15		6.7	µg/Kg	1	2/4/2022 07:01 PM
Dibenzo(a,h)anthracene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Dibenzofuran	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/4/2022 07:01 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-56 (1-2')
 Collection Date: 1/31/2022 03:30 PM

Work Order: 22020012
 Lab ID: 22020012-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	26		6.7	µg/Kg	1	2/4/2022 07:01 PM
Fluorene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Hexachloroethane	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Indeno(1,2,3-cd)pyrene	23		6.7	µg/Kg	1	2/4/2022 07:01 PM
Isophorone	ND		170	µg/Kg	1	2/4/2022 07:01 PM
Naphthalene	ND		6.7	µg/Kg	1	2/4/2022 07:01 PM
Nitrobenzene	ND		170	µg/Kg	1	2/4/2022 07:01 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/4/2022 07:01 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Phenanthrene	14		6.7	µg/Kg	1	2/4/2022 07:01 PM
Phenol	ND		33	µg/Kg	1	2/4/2022 07:01 PM
Pyrene	25		6.7	µg/Kg	1	2/4/2022 07:01 PM
Surr: 2,4,6-Tribromophenol	76.4		38-92	%REC	1	2/4/2022 07:01 PM
Surr: 2-Fluorobiphenyl	78.9		44-107	%REC	1	2/4/2022 07:01 PM
Surr: 2-Fluorophenol	73.0		37-109	%REC	1	2/4/2022 07:01 PM
Surr: 4-Terphenyl-d14	92.1		52-123	%REC	1	2/4/2022 07:01 PM
Surr: Nitrobenzene-d5	77.3		41-94	%REC	1	2/4/2022 07:01 PM
Surr: Phenol-d6	79.6		28-111	%REC	1	2/4/2022 07:01 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 15:52

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2,4-Trimethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: SB-56 (1-2')
 Collection Date: 1/31/2022 03:30 PM

Work Order: 22020012
 Lab ID: 22020012-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 07:11 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Benzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Bromoform	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Carbon disulfide	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Chloroform	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
Isopropylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
m,p-Xylene	ND		72	µg/Kg-dry	1	2/2/2022 07:11 PM
Methyl iodide	ND		600	µg/Kg-dry	1	2/2/2022 07:11 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/2/2022 07:11 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 07:11 PM
n-Propylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
o-Xylene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Styrene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Toluene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: SB-56 (1-2')
Collection Date: 1/31/2022 03:30 PM

Work Order: 22020012
Lab ID: 22020012-14
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/2/2022 07:11 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/2/2022 07:11 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 07:11 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	103		70-130	%REC	1	2/2/2022 07:11 PM
<i>Surr: 4-Bromofluorobenzene</i>	92.8		70-130	%REC	1	2/2/2022 07:11 PM
<i>Surr: Dibromofluoromethane</i>	98.5		70-130	%REC	1	2/2/2022 07:11 PM
<i>Surr: Toluene-d8</i>	108		70-130	%REC	1	2/2/2022 07:11 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	13		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Expansion
Sample ID: DUP-01
Collection Date: 1/31/2022 08:00 AM

Work Order: 22020012
Lab ID: 22020012-15
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04	Analyst: RM	
Aroclor 1016	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1221	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1232	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1242	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1248	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1254	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1260	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1262	ND		65	µg/Kg	1	2/7/2022 01:17 PM
Aroclor 1268	ND		65	µg/Kg	1	2/7/2022 01:17 PM
PCBs, Total	ND		65	µg/Kg	1	2/7/2022 01:17 PM
<i>Surr: Decachlorobiphenyl</i>	35.7	S	60-138	%REC	1	2/7/2022 01:17 PM
<i>Surr: Tetrachloro-m-xylene</i>	76.3		65-125	%REC	1	2/7/2022 01:17 PM
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29	Analyst: EJC	
Mercury	0.075		0.014	mg/Kg	1	2/4/2022 03:05 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16	Analyst: STP	
Arsenic	4.1		0.35	mg/Kg	1	2/2/2022 10:50 PM
Barium	65		0.35	mg/Kg	1	2/2/2022 10:50 PM
Cadmium	0.41		0.14	mg/Kg	1	2/2/2022 10:50 PM
Chromium	11		0.35	mg/Kg	1	2/2/2022 10:50 PM
Copper	15		0.35	mg/Kg	1	2/2/2022 10:50 PM
Lead	150		3.5	mg/Kg	10	2/3/2022 03:04 PM
Selenium	0.36		0.35	mg/Kg	1	2/2/2022 10:50 PM
Silver	ND		0.35	mg/Kg	1	2/2/2022 10:50 PM
Zinc	86		0.70	mg/Kg	1	2/2/2022 10:50 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33	Analyst: EE	
1,1'-Biphenyl	ND		160	µg/Kg	5	2/4/2022 09:44 PM
1,2,4,5-Tetrachlorobenzene	ND		830	µg/Kg	5	2/4/2022 09:44 PM
1,4-Dioxane	ND		830	µg/Kg	5	2/4/2022 09:44 PM
2,2'-Oxybis(1-chloropropane)	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,3,4,6-Tetrachlorophenol	ND		330	µg/Kg	5	2/4/2022 09:44 PM
2,4,5-Trichlorophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,4,6-Trichlorophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,4-Dichlorophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,4-Dimethylphenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,4-Dinitrophenol	ND		3,300	µg/Kg	5	2/4/2022 09:44 PM
2,4-Dinitrotoluene	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2,6-Dinitrotoluene	ND		160	µg/Kg	5	2/4/2022 09:44 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: DUP-01
 Collection Date: 1/31/2022 08:00 AM

Work Order: 22020012
 Lab ID: 22020012-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	ND		33	µg/Kg	5	2/4/2022 09:44 PM
2-Chlorophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2-Methylnaphthalene	1,600		33	µg/Kg	5	2/4/2022 09:44 PM
2-Methylphenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2-Nitroaniline	ND		160	µg/Kg	5	2/4/2022 09:44 PM
2-Nitrophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
3&4-Methylphenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
3,3'-Dichlorobenzidine	ND		830	µg/Kg	5	2/4/2022 09:44 PM
3-Nitroaniline	ND		160	µg/Kg	5	2/4/2022 09:44 PM
4,6-Dinitro-2-methylphenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
4-Bromophenyl phenyl ether	ND		160	µg/Kg	5	2/4/2022 09:44 PM
4-Chloro-3-methylphenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
4-Chloroaniline	ND		330	µg/Kg	5	2/4/2022 09:44 PM
4-Chlorophenyl phenyl ether	ND		160	µg/Kg	5	2/4/2022 09:44 PM
4-Nitroaniline	ND		830	µg/Kg	5	2/4/2022 09:44 PM
4-Nitrophenol	ND		830	µg/Kg	5	2/4/2022 09:44 PM
Acenaphthene	ND		33	µg/Kg	5	2/4/2022 09:44 PM
Acenaphthylene	ND		33	µg/Kg	5	2/4/2022 09:44 PM
Acetophenone	230		160	µg/Kg	5	2/4/2022 09:44 PM
Anthracene	90		33	µg/Kg	5	2/4/2022 09:44 PM
Atrazine	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Benzaldehyde	ND		330	µg/Kg	5	2/4/2022 09:44 PM
Benzo(a)anthracene	360		33	µg/Kg	5	2/4/2022 09:44 PM
Benzo(a)pyrene	350		33	µg/Kg	5	2/4/2022 09:44 PM
Benzo(b)fluoranthene	450		33	µg/Kg	5	2/4/2022 09:44 PM
Benzo(g,h,i)perylene	230		33	µg/Kg	5	2/4/2022 09:44 PM
Benzo(k)fluoranthene	140		33	µg/Kg	5	2/4/2022 09:44 PM
Bis(2-chloroethoxy)methane	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Bis(2-chloroethyl)ether	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Bis(2-ethylhexyl)phthalate	250		160	µg/Kg	5	2/4/2022 09:44 PM
Butyl benzyl phthalate	ND		330	µg/Kg	5	2/4/2022 09:44 PM
Caprolactam	ND		330	µg/Kg	5	2/4/2022 09:44 PM
Carbazole	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Chrysene	250		33	µg/Kg	5	2/4/2022 09:44 PM
Dibenzo(a,h)anthracene	67		33	µg/Kg	5	2/4/2022 09:44 PM
Dibenzofuran	240		160	µg/Kg	5	2/4/2022 09:44 PM
Diethyl phthalate	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Dimethyl phthalate	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Di-n-butyl phthalate	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Di-n-octyl phthalate	ND		160	µg/Kg	5	2/4/2022 09:44 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: DUP-01
 Collection Date: 1/31/2022 08:00 AM

Work Order: 22020012
 Lab ID: 22020012-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	610		33	µg/Kg	5	2/4/2022 09:44 PM
Fluorene	ND		33	µg/Kg	5	2/4/2022 09:44 PM
Hexachlorobenzene	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Hexachlorobutadiene	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Hexachlorocyclopentadiene	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Hexachloroethane	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Indeno(1,2,3-cd)pyrene	280		33	µg/Kg	5	2/4/2022 09:44 PM
Isophorone	ND		830	µg/Kg	5	2/4/2022 09:44 PM
Naphthalene	1,300		33	µg/Kg	5	2/4/2022 09:44 PM
Nitrobenzene	ND		830	µg/Kg	5	2/4/2022 09:44 PM
N-Nitrosodi-n-propylamine	ND		160	µg/Kg	5	2/4/2022 09:44 PM
N-Nitrosodiphenylamine	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Pentachlorophenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Phenanthrene	490		33	µg/Kg	5	2/4/2022 09:44 PM
Phenol	ND		160	µg/Kg	5	2/4/2022 09:44 PM
Pyrene	590		33	µg/Kg	5	2/4/2022 09:44 PM
Surr: 2,4,6-Tribromophenol	86.8		38-92	%REC	5	2/4/2022 09:44 PM
Surr: 2-Fluorobiphenyl	75.4		44-107	%REC	5	2/4/2022 09:44 PM
Surr: 2-Fluorophenol	62.0		37-109	%REC	5	2/4/2022 09:44 PM
Surr: 4-Terphenyl-d14	92.2		52-123	%REC	5	2/4/2022 09:44 PM
Surr: Nitrobenzene-d5	82.8		41-94	%REC	5	2/4/2022 09:44 PM
Surr: Phenol-d6	73.1		28-111	%REC	5	2/4/2022 09:44 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/1/22 15:52

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1,1-Trichloroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1,2,2-Tetrachloroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1,2-Trichloroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1,2-Trichlorotrifluoroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1-Dichloroethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,1-Dichloroethene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2,3-Trichloropropane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2,4-Trichlorobenzene	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2,4-Trimethylbenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2-Dibromo-3-chloropropane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2-Dibromoethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2-Dichlorobenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2-Dichloroethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
1,2-Dichloropropane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,3,5-Trimethylbenzene	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: DUP-01
 Collection Date: 1/31/2022 08:00 AM

Work Order: 22020012
 Lab ID: 22020012-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
1,4-Dichlorobenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
2-Butanone	ND		290	µg/Kg-dry	1	2/2/2022 07:26 PM
2-Hexanone	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
2-Methylnaphthalene	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
4-Methyl-2-pentanone	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Acetone	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Acrylonitrile	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Benzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Bromochloromethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Bromodichloromethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Bromoform	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Bromomethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Carbon disulfide	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Carbon tetrachloride	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Chlorobenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Chloroethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Chloroform	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Chloromethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
cis-1,2-Dichloroethene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
cis-1,3-Dichloropropene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Dibromochloromethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Dibromomethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Dichlorodifluoromethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Diethyl ether	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Ethylbenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Hexachloroethane	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
Isopropylbenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
m,p-Xylene	ND		87	µg/Kg-dry	1	2/2/2022 07:26 PM
Methyl iodide	ND		730	µg/Kg-dry	1	2/2/2022 07:26 PM
Methyl tert-butyl ether	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Methylene chloride	ND		360	µg/Kg-dry	1	2/2/2022 07:26 PM
Naphthalene	ND		150	µg/Kg-dry	1	2/2/2022 07:26 PM
n-Propylbenzene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
o-Xylene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Styrene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Tetrachloroethene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Toluene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
trans-1,2-Dichloroethene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
trans-1,3-Dichloropropene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Expansion
 Sample ID: DUP-01
 Collection Date: 1/31/2022 08:00 AM

Work Order: 22020012
 Lab ID: 22020012-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Trichloroethene	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Trichlorofluoromethane	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Vinyl acetate	ND		360	µg/Kg-dry	1	2/2/2022 07:26 PM
Vinyl chloride	ND		44	µg/Kg-dry	1	2/2/2022 07:26 PM
Xylenes, Total	ND		130	µg/Kg-dry	1	2/2/2022 07:26 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	104		70-130	%REC	1	2/2/2022 07:26 PM
<i>Surr: 4-Bromofluorobenzene</i>	85.3		70-130	%REC	1	2/2/2022 07:26 PM
<i>Surr: Dibromofluoromethane</i>	104		70-130	%REC	1	2/2/2022 07:26 PM
<i>Surr: Toluene-d8</i>	108		70-130	%REC	1	2/2/2022 07:26 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	21		0.10	% of sample	1	2/1/2022 01:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191217 Instrument ID GC14 Method: SW8082A

MBLK		Sample ID: PBLKS1-191217-191217			Units: µg/Kg		Analysis Date: 2/2/2022 07:52 PM			
Client ID:		Run ID: GC14_220202A			SeqNo: 8150734		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	67								
Aroclor 1221	ND	67								
Aroclor 1232	ND	67								
Aroclor 1242	ND	67								
Aroclor 1248	ND	67								
Aroclor 1254	ND	67								
Aroclor 1260	ND	67								
Aroclor 1262	ND	67								
Aroclor 1268	ND	67								
PCBs, Total	ND	67								
Surr: Decachlorobiphenyl	30.5	0	33.3	0	91.6	60-138	0			
Surr: Tetrachloro-m-xylene	28.67	0	33.3	0	86.1	65-125	0			

LCS		Sample ID: PLCSS1-191217-191217			Units: µg/Kg		Analysis Date: 2/2/2022 08:05 PM			
Client ID:		Run ID: GC14_220202A			SeqNo: 8150735		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	804.2	67	833	0	96.5	72-125	0			
Aroclor 1260	790.4	67	833	0	94.9	64-125	0			
Surr: Decachlorobiphenyl	31.2	0	33.3	0	93.7	60-138	0			
Surr: Tetrachloro-m-xylene	29.63	0	33.3	0	89	65-125	0			

MS		Sample ID: 22020012-05B MS			Units: µg/Kg		Analysis Date: 2/2/2022 08:18 PM			
Client ID: SB-47 (4-5')		Run ID: GC14_220202A			SeqNo: 8150736		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	825.7	66	823.8	0	100	72-125	0			
Aroclor 1260	793.1	66	823.8	0	96.3	64-125	0			
Surr: Decachlorobiphenyl	30.94	0	32.93	0	93.9	60-138	0			
Surr: Tetrachloro-m-xylene	29.87	0	32.93	0	90.7	65-125	0			

MSD		Sample ID: 22020012-05B MSD			Units: µg/Kg		Analysis Date: 2/2/2022 08:31 PM			
Client ID: SB-47 (4-5')		Run ID: GC14_220202A			SeqNo: 8150737		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	798.6	66	824	0	96.9	72-125	825.7	3.33	20	
Aroclor 1260	767.9	66	824	0	93.2	64-125	793.1	3.23	20	
Surr: Decachlorobiphenyl	31.44	0	32.94	0	95.4	60-138	30.94	1.62	20	
Surr: Tetrachloro-m-xylene	29.38	0	32.94	0	89.2	65-125	29.87	1.64	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020012
Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: **191217** Instrument ID **GC14** Method: **SW8082A**

The following samples were analyzed in this batch:

22020012-01B	22020012-02B	22020012-03B
22020012-04B	22020012-05B	22020012-06B
22020012-07B	22020012-08B	22020012-09B
22020012-10B	22020012-11B	22020012-12B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191313 Instrument ID GC14 Method: SW8082A

MBLK		Sample ID: PBLKS1-191313-191313				Units: µg/Kg		Analysis Date: 2/7/2022 11:48 AM		
Client ID:		Run ID: GC14_220207A		SeqNo: 8156606		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	67								
Aroclor 1221	ND	67								
Aroclor 1232	ND	67								
Aroclor 1242	ND	67								
Aroclor 1248	ND	67								
Aroclor 1254	ND	67								
Aroclor 1260	ND	67								
Aroclor 1262	ND	67								
Aroclor 1268	ND	67								
PCBs, Total	ND	67								
<i>Surr: Decachlorobiphenyl</i>	36.45	0	33.3	0	109	60-138	0			
<i>Surr: Tetrachloro-m-xylene</i>	32.6	0	33.3	0	97.9	65-125	0			

LCS		Sample ID: PLCSS1-191313-191313				Units: µg/Kg		Analysis Date: 2/7/2022 12:01 PM		
Client ID:		Run ID: GC14_220207A		SeqNo: 8156607		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	787.7	67	833	0	94.6	72-125	0			
Aroclor 1260	815.4	67	833	0	97.9	64-125	0			
<i>Surr: Decachlorobiphenyl</i>	36.87	0	33.3	0	111	60-138	0			
<i>Surr: Tetrachloro-m-xylene</i>	34.88	0	33.3	0	105	65-125	0			

MS		Sample ID: 22020089-01B MS				Units: µg/Kg		Analysis Date: 2/7/2022 12:13 PM		
Client ID:		Run ID: GC14_220207A		SeqNo: 8156608		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	717.6	65	807.4	0	88.9	72-125	0			
Aroclor 1260	737.3	65	807.4	0	91.3	64-125	0			
<i>Surr: Decachlorobiphenyl</i>	28.64	0	32.28	0	88.7	60-138	0			
<i>Surr: Tetrachloro-m-xylene</i>	30.06	0	32.28	0	93.1	65-125	0			

MSD		Sample ID: 22020089-01B MSD				Units: µg/Kg		Analysis Date: 2/7/2022 12:26 PM		
Client ID:		Run ID: GC14_220207A		SeqNo: 8156609		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	817.9	65	814.5	0	100	72-125	717.6	13.1	20	
Aroclor 1260	809.3	65	814.5	0	99.4	64-125	737.3	9.31	20	
<i>Surr: Decachlorobiphenyl</i>	31.48	0	32.56	0	96.7	60-138	28.64	9.46	20	
<i>Surr: Tetrachloro-m-xylene</i>	33.41	0	32.56	0	103	65-125	30.06	10.5	20	

The following samples were analyzed in this batch: 22020012-13B 22020012-14B 22020012-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191300 Instrument ID HG4 Method: SW7471B

MBLK		Sample ID: MBLK-191300-191300				Units: mg/Kg		Analysis Date: 2/4/2022 02:31 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154256		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS		Sample ID: LCS-191300-191300				Units: mg/Kg		Analysis Date: 2/4/2022 02:33 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154257		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1733	0.020	0.1665	0	104	80-120	0			

MS		Sample ID: 22020092-03BMS				Units: mg/Kg		Analysis Date: 2/4/2022 03:21 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154284		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1869	0.018	0.1537	0.02264	107	75-125	0			

MSD		Sample ID: 22020092-03BMSD				Units: mg/Kg		Analysis Date: 2/4/2022 03:22 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154285		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1907	0.019	0.1549	0.02264	109	75-125	0.1869	2	35	

The following samples were analyzed in this batch:

22020012-01B	22020012-02B	22020012-03B
22020012-04B	22020012-05B	22020012-06B
22020012-07B	22020012-08B	22020012-09B
22020012-10B	22020012-11B	22020012-12B
22020012-13B	22020012-14B	22020012-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191202 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191202-191202				Units: mg/Kg		Analysis Date: 2/2/2022 09:33 PM		
Client ID:		Run ID: ICPMS4_220202B		SeqNo: 8149017		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-191202-191202				Units: mg/Kg		Analysis Date: 2/2/2022 09:35 PM		
Client ID:		Run ID: ICPMS4_220202B		SeqNo: 8149018		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.874	0.25	5	0	97.5	80-120	0			
Barium	5.021	0.25	5	0	100	80-120	0			
Cadmium	4.994	0.10	5	0	99.9	80-120	0			
Chromium	4.994	0.25	5	0	99.9	80-120	0			
Copper	5.101	0.25	5	0	102	80-120	0			
Lead	4.96	0.25	5	0	99.2	80-120	0			
Selenium	4.876	0.25	5	0	97.5	80-120	0			
Silver	4.273	0.25	5	0	85.5	80-120	0			
Zinc	5.08	0.50	5	0	102	80-120	0			

MS		Sample ID: 22011727-04BMS				Units: mg/Kg		Analysis Date: 2/2/2022 09:46 PM		
Client ID:		Run ID: ICPMS4_220202B		SeqNo: 8149023		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.28	0.33	6.605	5.554	71.5	75-125	0			S
Barium	126.5	0.33	6.605	128.1	-24	75-125	0			SEO
Cadmium	6.218	0.13	6.605	0.8009	82	75-125	0			
Chromium	15.39	0.33	6.605	8.596	103	75-125	0			
Copper	62.9	0.33	6.605	52.31	160	75-125	0			SO
Lead	90.17	0.33	6.605	112.9	-344	75-125	0			SO
Selenium	5.858	0.33	6.605	0.4558	81.8	75-125	0			
Silver	4.757	0.33	6.605	0.08356	70.8	75-125	0			S
Zinc	144.8	0.66	6.605	131.3	205	75-125	0			SEO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191202 Instrument ID ICPMS4 Method: SW6020B

MSD		Sample ID: 22011727-04BMSD				Units: mg/Kg		Analysis Date: 2/2/2022 09:48 PM			
Client ID:		Run ID: ICPMS4_220202B			SeqNo: 8149024		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	10.6	0.34	6.766	5.554	74.5	75-125	10.28	3.04	20	S	
Barium	137.6	0.34	6.766	128.1	142	75-125	126.5	8.46	20	SEO	
Cadmium	6.502	0.14	6.766	0.8009	84.3	75-125	6.218	4.47	20		
Chromium	16.35	0.34	6.766	8.596	115	75-125	15.39	6.1	20		
Copper	65.42	0.34	6.766	52.31	194	75-125	62.9	3.93	20	SO	
Lead	151	0.34	6.766	112.9	563	75-125	90.17	50.5	20	SREO	
Selenium	6.369	0.34	6.766	0.4558	87.4	75-125	5.858	8.35	20		
Silver	5.095	0.34	6.766	0.08356	74.1	75-125	4.757	6.87	20	S	
Zinc	127.9	0.68	6.766	131.3	-49.8	75-125	144.8	12.4	20	SEO	

The following samples were analyzed in this batch:

22020012-01B	22020012-02B	22020012-03B
22020012-04B	22020012-05B	22020012-06B
22020012-07B	22020012-08B	22020012-09B
22020012-10B	22020012-11B	22020012-12B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191203 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191203-191203				Units: mg/Kg		Analysis Date: 2/2/2022 10:41 PM		
Client ID:		Run ID: ICPMS4_220202B			SeqNo: 8149047		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-191203-191203				Units: mg/Kg		Analysis Date: 2/2/2022 10:43 PM		
Client ID:		Run ID: ICPMS4_220202B			SeqNo: 8149048		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.715	0.25	5	0	94.3	80-120	0			
Barium	5	0.25	5	0	100	80-120	0			
Cadmium	4.814	0.10	5	0	96.3	80-120	0			
Chromium	4.617	0.25	5	0	92.3	80-120	0			
Copper	4.738	0.25	5	0	94.8	80-120	0			
Lead	4.878	0.25	5	0	97.6	80-120	0			
Selenium	4.807	0.25	5	0	96.1	80-120	0			
Silver	4.481	0.25	5	0	89.6	80-120	0			
Zinc	4.716	0.50	5	0	94.3	80-120	0			

MS		Sample ID: 22020092-03BMS				Units: mg/Kg		Analysis Date: 2/2/2022 11:11 PM		
Client ID:		Run ID: ICPMS4_220202B			SeqNo: 8149060		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.881	0.38	7.692	2.021	102	75-125	0			
Barium	117.2	0.38	7.692	85.11	417	75-125	0			SO
Cadmium	6.504	0.15	7.692	-0.006373	84.6	75-125	0			
Copper	12.98	0.38	7.692	6.855	79.7	75-125	0			
Lead	14.62	0.38	7.692	5.174	123	75-125	0			
Selenium	6.669	0.38	7.692	0.1095	85.3	75-125	0			
Silver	5.982	0.38	7.692	0.02598	77.4	75-125	0			
Zinc	39.34	0.77	7.692	30.82	111	75-125	0			O

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191203 Instrument ID ICPMS4 Method: SW6020B

MS				Sample ID: 22020092-03BMS			Units: mg/Kg		Analysis Date: 2/3/2022 03:16 PM		
Client ID:		Run ID: ICPMS4_220203B			SeqNo: 8150688		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium	25.24	0.38	7.692	19.43	75.5	75-125		0			

MSD				Sample ID: 22020092-03BMSD			Units: mg/Kg		Analysis Date: 2/2/2022 11:13 PM		
Client ID:		Run ID: ICPMS4_220202B			SeqNo: 8149061		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	10.23	0.39	7.849	2.021	105	75-125	9.881	3.43	20		
Barium	104.1	0.39	7.849	85.11	242	75-125	117.2	11.8	20	SO	
Cadmium	6.212	0.16	7.849	-0.006373	79.2	75-125	6.504	4.59	20		
Copper	13.05	0.39	7.849	6.855	78.9	75-125	12.98	0.496	20		
Lead	15.63	0.39	7.849	5.174	133	75-125	14.62	6.72	20	S	
Selenium	6.534	0.39	7.849	0.1095	81.9	75-125	6.669	2.04	20		
Silver	5.774	0.39	7.849	0.02598	73.2	75-125	5.982	3.53	20	S	
Zinc	39.79	0.78	7.849	30.82	114	75-125	39.34	1.14	20		

MSD				Sample ID: 22020092-03BMSD			Units: mg/Kg		Analysis Date: 2/3/2022 03:18 PM		
Client ID:		Run ID: ICPMS4_220203B			SeqNo: 8150689		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium	24.94	0.39	7.849	19.43	70.1	75-125	25.24	1.21	20	S	

The following samples were analyzed in this batch: 22020012-13B 22020012-14B 22020012-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195 Instrument ID SVMS10 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-191195-191195			Units: µg/Kg		Analysis Date: 2/2/2022 03:02 PM			
Client ID:		Run ID: SVMS10_220202A			SeqNo: 8151164		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	33								
1,2,4,5-Tetrachlorobenzene	ND	170								
1,4-Dioxane	ND	170								
2,2'-Oxybis(1-chloropropane)	ND	33								
2,3,4,6-Tetrachlorophenol	ND	67								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	670								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3'-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	170								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

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Batch ID: 191195	Instrument ID SVMS10	Method: SW846 8270D						
Butyl benzyl phthalate	ND	67						
Caprolactam	ND	67						
Carbazole	ND	33						
Chrysene	ND	6.7						
Dibenzo(a,h)anthracene	ND	6.7						
Dibenzofuran	ND	33						
Diethyl phthalate	ND	33						
Dimethyl phthalate	ND	33						
Di-n-butyl phthalate	ND	33						
Di-n-octyl phthalate	ND	33						
Fluoranthene	ND	6.7						
Fluorene	ND	6.7						
Hexachlorobenzene	ND	33						
Hexachlorobutadiene	ND	33						
Hexachlorocyclopentadiene	ND	33						
Hexachloroethane	ND	33						
Indeno(1,2,3-cd)pyrene	ND	6.7						
Isophorone	ND	170						
Naphthalene	ND	6.7						
Nitrobenzene	ND	170						
N-Nitrosodi-n-propylamine	ND	33						
N-Nitrosodiphenylamine	ND	33						
Pentachlorophenol	ND	33						
Phenanthrene	ND	6.7						
Phenol	ND	33						
Pyrene	ND	6.7						
Surr: 2,4,6-Tribromophenol	2088	0	3333	0	62.6	38-92	0	
Surr: 2-Fluorobiphenyl	2445	0	3333	0	73.4	44-107	0	
Surr: 2-Fluorophenol	2385	0	3333	0	71.6	37-109	0	
Surr: 4-Terphenyl-d14	2355	0	3333	0	70.7	52-123	0	
Surr: Nitrobenzene-d5	2245	0	3333	0	67.4	41-94	0	
Surr: Phenol-d6	2625	0	3333	0	78.7	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195 Instrument ID SVMS10 Method: SW846 8270D

LCS				Sample ID: SLCSS1-191195-191195		Units: µg/Kg		Analysis Date: 2/2/2022 03:30 PM		
Client ID:		Run ID: SVMS10_220202A		SeqNo: 8151165		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1063	33	1333	0	79.7	53-97	0			
1,2,4,5-Tetrachlorobenzene	984	170	1333	0	73.8	51-96	0			
2,2'-Oxybis(1-chloropropane)	1037	33	1333	0	77.8	47-107	0			
2,3,4,6-Tetrachlorophenol	899.3	67	1333	0	67.5	51-110	0			
2,4,5-Trichlorophenol	1013	33	1333	0	76	52-111	0			
2,4,6-Trichlorophenol	1021	33	1333	0	76.6	46-105	0			
2,4-Dichlorophenol	1120	33	1333	0	84	47-96	0			
2,4-Dimethylphenol	1100	33	1333	0	82.5	49-97	0			
2,4-Dinitrophenol	491.3	670	1333	0	36.9	10-106	0			J
2,4-Dinitrotoluene	1053	33	1333	0	79	58-110	0			
2,6-Dinitrotoluene	1101	33	1333	0	82.6	59-108	0			
2-Chloronaphthalene	1085	6.7	1333	0	81.4	56-104	0			
2-Chlorophenol	1179	33	1333	0	88.5	50-104	0			
2-Methylnaphthalene	1129	6.7	1333	0	84.7	54-96	0			
2-Methylphenol	1202	33	1333	0	90.2	49-105	0			
2-Nitroaniline	1072	33	1333	0	80.4	54-107	0			
2-Nitrophenol	1139	33	1333	0	85.4	51-94	0			
3&4-Methylphenol	1194	33	1333	0	89.6	48-105	0			
3,3'-Dichlorobenzidine	780	170	1333	0	58.5	39-99	0			
3-Nitroaniline	978.7	33	1333	0	73.4	17-92	0			
4,6-Dinitro-2-methylphenol	881.3	33	1333	0	66.1	32-103	0			
4-Bromophenyl phenyl ether	1153	33	1333	0	86.5	60-106	0			
4-Chloro-3-methylphenol	1158	33	1333	0	86.9	51-101	0			
4-Chloroaniline	664.7	67	1333	0	49.9	27-110	0			
4-Chlorophenyl phenyl ether	1057	33	1333	0	79.3	58-106	0			
4-Nitroaniline	1085	170	1333	0	81.4	21-100	0			
4-Nitrophenol	838	170	1333	0	62.9	29-120	0			
Acenaphthene	1094	6.7	1333	0	82.1	55-101	0			
Acenaphthylene	1147	6.7	1333	0	86	59-106	0			
Acetophenone	1088	33	1333	0	81.6	51-100	0			
Anthracene	1141	6.7	1333	0	85.6	67-105	0			
Atrazine	1014	33	1333	0	76.1	45-125	0			
Benzaldehyde	1096	67	1333	0	82.2	10-120	0			
Benzo(a)anthracene	1129	6.7	1333	0	84.7	68-105	0			
Benzo(a)pyrene	1125	6.7	1333	0	84.4	68-110	0			
Benzo(b)fluoranthene	1120	6.7	1333	0	84	65-110	0			
Benzo(g,h,i)perylene	1242	6.7	1333	0	93.2	60-120	0			
Benzo(k)fluoranthene	1097	6.7	1333	0	82.3	66-113	0			
Bis(2-chloroethoxy)methane	1175	33	1333	0	88.1	53-96	0			
Bis(2-chloroethyl)ether	1099	33	1333	0	82.5	47-108	0			
Bis(2-ethylhexyl)phthalate	1195	33	1333	0	89.6	59-117	0			
Butyl benzyl phthalate	1167	67	1333	0	87.5	59-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195	Instrument ID SVMS10		Method: SW846 8270D					
Caprolactam	1005	67	1333	0	75.4	42-105	0	
Carbazole	1083	33	1333	0	81.3	67-108	0	
Chrysene	1106	6.7	1333	0	83	68-108	0	
Dibenzo(a,h)anthracene	1151	6.7	1333	0	86.3	62-119	0	
Dibenzofuran	1086	33	1333	0	81.5	60-104	0	
Diethyl phthalate	1088	33	1333	0	81.6	62-111	0	
Dimethyl phthalate	1147	33	1333	0	86.1	62-106	0	
Di-n-butyl phthalate	1205	33	1333	0	90.4	59-105	0	
Di-n-octyl phthalate	1404	33	1333	0	105	51-123	0	
Fluoranthene	1067	6.7	1333	0	80.1	67-106	0	
Fluorene	1097	6.7	1333	0	82.3	59-107	0	
Hexachlorobenzene	1050	33	1333	0	78.8	62-103	0	
Hexachlorobutadiene	941.3	33	1333	0	70.6	51-94	0	
Hexachlorocyclopentadiene	1014	33	1333	0	76.1	25-120	0	
Hexachloroethane	1163	33	1333	0	87.3	55-93	0	
Indeno(1,2,3-cd)pyrene	1266	6.7	1333	0	95	56-120	0	
Isophorone	1082	170	1333	0	81.2	52-99	0	
Naphthalene	1091	6.7	1333	0	81.9	46-98	0	
Nitrobenzene	1094	170	1333	0	82.1	53-95	0	
N-Nitrosodi-n-propylamine	1148	33	1333	0	86.1	50-104	0	
N-Nitrosodiphenylamine	1138	33	1333	0	85.4	63-107	0	
Pentachlorophenol	676	33	1333	0	50.7	34-106	0	
Phenanthrene	1128	6.7	1333	0	84.6	66-101	0	
Phenol	1167	33	1333	0	87.6	44-109	0	
Pyrene	1298	6.7	1333	0	97.4	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2325	0	3333	0	69.7	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	2471	0	3333	0	74.1	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2437	0	3333	0	73.1	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	2736	0	3333	0	82.1	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2451	0	3333	0	73.5	41-94	0	
<i>Surr: Phenol-d6</i>	2700	0	3333	0	81	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195 Instrument ID SVMS10 Method: SW846 8270D

MS				Sample ID: 22020012-05B MS			Units: µg/Kg		Analysis Date: 2/2/2022 06:13 PM		
Client ID: SB-47 (4-5')			Run ID: SVMS10_220202A		SeqNo: 8151166		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1013	32	1294	0	78.3	53-97	0				
1,2,4,5-Tetrachlorobenzene	927.2	160	1294	0	71.7	51-96	0				
2,2'-Oxybis(1-chloropropane)	1002	32	1294	0	77.5	47-107	0				
2,3,4,6-Tetrachlorophenol	1015	65	1294	0	78.5	51-110	0				
2,4,5-Trichlorophenol	1095	32	1294	0	84.7	52-111	0				
2,4,6-Trichlorophenol	1074	32	1294	0	83	46-105	0				
2,4-Dichlorophenol	1161	32	1294	0	89.7	47-96	0				
2,4-Dimethylphenol	1176	32	1294	0	90.9	49-97	0				
2,4-Dinitrophenol	350.7	650	1294	0	27.1	10-106	0			J	
2,4-Dinitrotoluene	1089	32	1294	0	84.2	58-110	0				
2,6-Dinitrotoluene	1079	32	1294	0	83.4	59-108	0				
2-Chloronaphthalene	1026	6.5	1294	0	79.3	56-104	0				
2-Chlorophenol	1176	32	1294	0	90.9	50-104	0				
2-Methylnaphthalene	933.7	6.5	1294	0	72.2	54-96	0				
2-Methylphenol	1218	32	1294	0	94.1	49-105	0				
2-Nitroaniline	1062	32	1294	0	82.1	54-107	0				
2-Nitrophenol	1163	32	1294	0	89.9	51-94	0				
3&4-Methylphenol	1214	32	1294	0	93.8	48-105	0				
3,3'-Dichlorobenzidine	766.7	160	1294	0	59.3	39-99	0				
3-Nitroaniline	995.1	32	1294	0	76.9	17-92	0				
4,6-Dinitro-2-methylphenol	902.6	32	1294	0	69.8	32-103	0				
4-Bromophenyl phenyl ether	1050	32	1294	0	81.2	60-106	0				
4-Chloro-3-methylphenol	1205	32	1294	0	93.2	51-101	0				
4-Chloroaniline	950.5	65	1294	0	73.5	27-110	0				
4-Chlorophenyl phenyl ether	999	32	1294	0	77.2	58-106	0				
4-Nitroaniline	1095	160	1294	0	84.7	21-100	0				
4-Nitrophenol	944	160	1294	0	73	29-120	0				
Acenaphthene	1046	6.5	1294	0	80.8	55-101	0				
Acenaphthylene	1073	6.5	1294	2.64	82.7	59-106	0				
Acetophenone	1073	32	1294	0	83	51-100	0				
Anthracene	1095	6.5	1294	4.62	84.3	67-105	0				
Atrazine	1129	32	1294	0	87.3	45-125	0				
Benzaldehyde	1036	65	1294	0	80.1	10-120	0				
Benzo(a)anthracene	1017	6.5	1294	18.48	77.2	68-105	0				
Benzo(a)pyrene	1041	6.5	1294	24.42	78.6	68-110	0				
Benzo(b)fluoranthene	1047	6.5	1294	30.36	78.6	65-110	0				
Benzo(g,h,i)perylene	936.9	6.5	1294	19.8	70.9	60-120	0				
Benzo(k)fluoranthene	1022	6.5	1294	12.54	78	66-113	0				
Bis(2-chloroethoxy)methane	1123	32	1294	0	86.8	53-96	0				
Bis(2-chloroethyl)ether	1072	32	1294	0	82.8	47-108	0				
Bis(2-ethylhexyl)phthalate	1147	32	1294	38.94	85.6	59-117	0				
Butyl benzyl phthalate	1149	65	1294	0	88.8	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195	Instrument ID SVMS10		Method: SW846 8270D					
Caprolactam	1120	65	1294	0	86.6	42-105	0	
Carbazole	1109	32	1294	0	85.7	67-108	0	
Chrysene	1016	6.5	1294	15.84	77.3	68-108	0	
Dibenzo(a,h)anthracene	924	6.5	1294	8.58	70.8	62-119	0	
Dibenzofuran	1014	32	1294	0	78.4	60-104	0	
Diethyl phthalate	1088	32	1294	0	84.1	62-111	0	
Dimethyl phthalate	1128	32	1294	0	87.2	62-106	0	
Di-n-butyl phthalate	1145	32	1294	0	88.5	59-105	0	
Di-n-octyl phthalate	1390	32	1294	0	107	51-123	0	
Fluoranthene	1088	6.5	1294	34.98	81.4	67-106	0	
Fluorene	1060	6.5	1294	0	82	59-107	0	
Hexachlorobenzene	935.6	32	1294	0	72.3	62-103	0	
Hexachlorobutadiene	858.6	32	1294	0	66.4	51-94	0	
Hexachlorocyclopentadiene	774.5	32	1294	0	59.9	25-120	0	
Hexachloroethane	1112	32	1294	0	85.9	55-93	0	
Indeno(1,2,3-cd)pyrene	1032	6.5	1294	23.1	78	56-120	0	
Isophorone	1055	160	1294	0	81.5	52-99	0	
Naphthalene	1024	6.5	1294	0	79.1	46-98	0	
Nitrobenzene	993.2	160	1294	0	76.8	53-95	0	
N-Nitrosodi-n-propylamine	1110	32	1294	0	85.8	50-104	0	
N-Nitrosodiphenylamine	1102	32	1294	0	85.2	63-107	0	
Pentachlorophenol	841.2	32	1294	0	65	34-106	0	
Phenanthrene	1076	6.5	1294	10.56	82.4	66-101	0	
Phenol	1151	32	1294	0	89	44-109	0	
Pyrene	1139	6.5	1294	34.98	85.4	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2353	0	3235	0	72.7	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	2254	0	3235	0	69.7	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2454	0	3235	0	75.8	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	2398	0	3235	0	74.1	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2251	0	3235	0	69.6	41-94	0	
<i>Surr: Phenol-d6</i>	2737	0	3235	0	84.6	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195 Instrument ID SVMS10 Method: SW846 8270D

MSD				Sample ID: 22020012-05B MSD			Units: µg/Kg		Analysis Date: 2/2/2022 06:40 PM		
Client ID: SB-47 (4-5')			Run ID: SVMS10_220202A			SeqNo: 8151167		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1039	32	1307	0	79.5	53-97	1013	2.53	30		
1,2,4,5-Tetrachlorobenzene	953.6	160	1307	0	73	51-96	927.2	2.81	30		
2,2'-Oxybis(1-chloropropane)	1128	32	1307	0	86.3	47-107	1002	11.8	30		
2,3,4,6-Tetrachlorophenol	996.7	66	1307	0	76.3	51-110	1015	1.84	30		
2,4,5-Trichlorophenol	1153	32	1307	0	88.2	52-111	1095	5.11	30		
2,4,6-Trichlorophenol	1107	32	1307	0	84.7	46-105	1074	3.03	30		
2,4-Dichlorophenol	1186	32	1307	0	90.8	47-96	1161	2.17	30		
2,4-Dimethylphenol	1229	32	1307	0	94.1	49-97	1176	4.47	30		
2,4-Dinitrophenol	294.1	650	1307	0	22.5	10-106	350.7	0	30	J	
2,4-Dinitrotoluene	1126	32	1307	0	86.2	58-110	1089	3.36	30		
2,6-Dinitrotoluene	1130	32	1307	0	86.5	59-108	1079	4.66	30		
2-Chloronaphthalene	1056	6.5	1307	0	80.8	56-104	1026	2.88	30		
2-Chlorophenol	1234	32	1307	0	94.4	50-104	1176	4.79	30		
2-Methylnaphthalene	1120	6.5	1307	0	85.7	54-96	933.7	18.2	30		
2-Methylphenol	1280	32	1307	0	98	49-105	1218	5.02	30		
2-Nitroaniline	1158	32	1307	0	88.6	54-107	1062	8.63	30		
2-Nitrophenol	1218	32	1307	0	93.2	51-94	1163	4.67	30		
3&4-Methylphenol	1265	32	1307	0	96.8	48-105	1214	4.16	30		
3,3'-Dichlorobenzidine	873.9	160	1307	0	66.9	39-99	766.7	13.1	30		
3-Nitroaniline	1076	32	1307	0	82.3	17-92	995.1	7.79	30		
4,6-Dinitro-2-methylphenol	869.3	32	1307	0	66.5	32-103	902.6	3.76	30		
4-Bromophenyl phenyl ether	1105	32	1307	0	84.5	60-106	1050	5.05	30		
4-Chloro-3-methylphenol	1256	32	1307	0	96.1	51-101	1205	4.12	30		
4-Chloroaniline	975.8	66	1307	0	74.7	27-110	950.5	2.63	30		
4-Chlorophenyl phenyl ether	1028	32	1307	0	78.7	58-106	999	2.87	30		
4-Nitroaniline	1158	160	1307	0	88.6	21-100	1095	5.51	30		
4-Nitrophenol	976.5	160	1307	0	74.7	29-120	944	3.38	30		
Acenaphthene	1073	6.5	1307	0	82.1	55-101	1046	2.6	30		
Acenaphthylene	1137	6.5	1307	2.64	86.8	59-106	1073	5.83	30		
Acetophenone	1116	32	1307	0	85.4	51-100	1073	3.92	30		
Anthracene	1135	6.5	1307	4.62	86.5	67-105	1095	3.52	30		
Atrazine	1131	32	1307	0	86.6	45-125	1129	0.203	30		
Benzaldehyde	1121	66	1307	0	85.8	10-120	1036	7.88	30		
Benzo(a)anthracene	1084	6.5	1307	18.48	81.5	68-105	1017	6.33	30		
Benzo(a)pyrene	1089	6.5	1307	24.42	81.5	68-110	1041	4.49	30		
Benzo(b)fluoranthene	1099	6.5	1307	30.36	81.8	65-110	1047	4.89	30		
Benzo(g,h,i)perylene	1029	6.5	1307	19.8	77.3	60-120	936.9	9.41	30		
Benzo(k)fluoranthene	1061	6.5	1307	12.54	80.2	66-113	1022	3.76	30		
Bis(2-chloroethoxy)methane	1202	32	1307	0	92	53-96	1123	6.77	30		
Bis(2-chloroethyl)ether	1178	32	1307	0	90.1	47-108	1072	9.45	30		
Bis(2-ethylhexyl)phthalate	1256	32	1307	38.94	93.1	59-117	1147	9.08	30		
Butyl benzyl phthalate	1237	66	1307	0	94.6	59-106	1149	7.33	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191195	Instrument ID SVMS10		Method: SW846 8270D							
Caprolactam	1186	66	1307	0	90.7	42-105	1120	5.69	30	
Carbazole	1161	32	1307	0	88.9	67-108	1109	4.62	30	
Chrysene	1065	6.5	1307	15.84	80.3	68-108	1016	4.63	30	
Dibenzo(a,h)anthracene	977.1	6.5	1307	8.58	74.1	62-119	924	5.59	30	
Dibenzofuran	1047	32	1307	0	80.1	60-104	1014	3.22	30	
Diethyl phthalate	1144	32	1307	0	87.6	62-111	1088	5.09	30	
Dimethyl phthalate	1173	32	1307	0	89.7	62-106	1128	3.83	30	
Di-n-butyl phthalate	1204	32	1307	0	92.1	59-105	1145	5.05	30	
Di-n-octyl phthalate	1539	32	1307	0	118	51-123	1390	10.2	30	
Fluoranthene	1114	6.5	1307	34.98	82.6	67-106	1088	2.43	30	
Fluorene	1091	6.5	1307	0	83.5	59-107	1060	2.82	30	
Hexachlorobenzene	1003	32	1307	0	76.8	62-103	935.6	6.98	30	
Hexachlorobutadiene	910.5	32	1307	0	69.7	51-94	858.6	5.86	30	
Hexachlorocyclopentadiene	859.5	32	1307	0	65.8	25-120	774.5	10.4	30	
Hexachloroethane	1166	32	1307	0	89.2	55-93	1112	4.78	30	
Indeno(1,2,3-cd)pyrene	1113	6.5	1307	23.1	83.4	56-120	1032	7.56	30	
Isophorone	1131	160	1307	0	86.6	52-99	1055	7.02	30	
Naphthalene	1071	6.5	1307	0	81.9	46-98	1024	4.49	30	
Nitrobenzene	1104	160	1307	0	84.5	53-95	993.2	10.6	30	
N-Nitrosodi-n-propylamine	1235	32	1307	0	94.5	50-104	1110	10.7	30	
N-Nitrosodiphenylamine	1163	32	1307	0	89	63-107	1102	5.43	30	
Pentachlorophenol	809.2	32	1307	0	61.9	34-106	841.2	3.88	30	
Phenanthrene	1107	6.5	1307	10.56	83.9	66-101	1076	2.8	30	
Phenol	1220	32	1307	0	93.4	44-109	1151	5.83	30	
Pyrene	1237	6.5	1307	34.98	91.9	60-119	1139	8.18	30	
<i>Surr: 2,4,6-Tribromophenol</i>	2454	0	3268	0	75.1	38-92	2353	4.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	2359	0	3268	0	72.2	44-107	2254	4.53	40	
<i>Surr: 2-Fluorophenol</i>	2578	0	3268	0	78.9	37-109	2454	4.96	40	
<i>Surr: 4-Terphenyl-d14</i>	2688	0	3268	0	82.2	52-123	2398	11.4	40	
<i>Surr: Nitrobenzene-d5</i>	2405	0	3268	0	73.6	41-94	2251	6.6	40	
<i>Surr: Phenol-d6</i>	2832	0	3268	0	86.7	28-111	2737	3.41	40	

The following samples were analyzed in this batch:

22020012-01B	22020012-02B	22020012-03B
22020012-04B	22020012-05B	22020012-06B
22020012-07B	22020012-08B	22020012-09B
22020012-10B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-191283-191283			Units: µg/Kg		Analysis Date: 2/4/2022 04:38 PM			
Client ID:		Run ID: SVMS8_220204A			SeqNo: 8155704		Prep Date: 2/3/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	33								
1,2,4,5-Tetrachlorobenzene	ND	170								
1,4-Dioxane	ND	170								
2,2'-Oxybis(1-chloropropane)	ND	33								
2,3,4,6-Tetrachlorophenol	ND	67								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	670								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3'-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	170								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8	Method: SW846 8270D						
Butyl benzyl phthalate	ND	67						
Caprolactam	ND	67						
Carbazole	ND	33						
Chrysene	ND	6.7						
Dibenzo(a,h)anthracene	ND	6.7						
Dibenzofuran	ND	33						
Diethyl phthalate	ND	33						
Dimethyl phthalate	ND	33						
Di-n-butyl phthalate	ND	33						
Di-n-octyl phthalate	ND	33						
Fluoranthene	ND	6.7						
Fluorene	ND	6.7						
Hexachlorobenzene	ND	33						
Hexachlorobutadiene	ND	33						
Hexachlorocyclopentadiene	ND	33						
Hexachloroethane	ND	33						
Indeno(1,2,3-cd)pyrene	ND	6.7						
Isophorone	ND	170						
Naphthalene	ND	6.7						
Nitrobenzene	ND	170						
N-Nitrosodi-n-propylamine	ND	33						
N-Nitrosodiphenylamine	ND	33						
Pentachlorophenol	ND	33						
Phenanthrene	ND	6.7						
Phenol	ND	33						
Pyrene	ND	6.7						
Surr: 2,4,6-Tribromophenol	1991	0	3333	0	59.7	38-92	0	
Surr: 2-Fluorobiphenyl	2849	0	3333	0	85.5	44-107	0	
Surr: 2-Fluorophenol	2487	0	3333	0	74.6	37-109	0	
Surr: 4-Terphenyl-d14	3185	0	3333	0	95.6	52-123	0	
Surr: Nitrobenzene-d5	2501	0	3333	0	75	41-94	0	
Surr: Phenol-d6	2597	0	3333	0	77.9	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

LCS				Sample ID: SLCSS1-191283-191283			Units: µg/Kg		Analysis Date: 2/4/2022 04:58 PM		
Client ID:		Run ID: SVMS8_220204A		SeqNo: 8155705		Prep Date: 2/3/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1153	33	1333	0	86.5	53-97	0				
1,2,4,5-Tetrachlorobenzene	1115	170	1333	0	83.7	51-96	0				
2,2'-Oxybis(1-chloropropane)	1143	33	1333	0	85.7	47-107	0				
2,3,4,6-Tetrachlorophenol	1154	67	1333	0	86.6	51-110	0				
2,4,5-Trichlorophenol	1122	33	1333	0	84.2	52-111	0				
2,4,6-Trichlorophenol	1159	33	1333	0	87	46-105	0				
2,4-Dichlorophenol	1125	33	1333	0	84.4	47-96	0				
2,4-Dimethylphenol	1073	33	1333	0	80.5	49-97	0				
2,4-Dinitrophenol	908.7	670	1333	0	68.2	10-106	0				
2,4-Dinitrotoluene	1216	33	1333	0	91.2	58-110	0				
2,6-Dinitrotoluene	1183	33	1333	0	88.8	59-108	0				
2-Chloronaphthalene	1149	6.7	1333	0	86.2	56-104	0				
2-Chlorophenol	1189	33	1333	0	89.2	50-104	0				
2-Methylnaphthalene	1197	6.7	1333	0	89.8	54-96	0				
2-Methylphenol	1137	33	1333	0	85.3	49-105	0				
2-Nitroaniline	1183	33	1333	0	88.8	54-107	0				
2-Nitrophenol	1229	33	1333	0	92.2	51-94	0				
3&4-Methylphenol	1146	33	1333	0	86	48-105	0				
3,3'-Dichlorobenzidine	738.7	170	1333	0	55.4	39-99	0				
3-Nitroaniline	972	33	1333	0	72.9	17-92	0				
4,6-Dinitro-2-methylphenol	1134	33	1333	0	85.1	32-103	0				
4-Bromophenyl phenyl ether	1223	33	1333	0	91.8	60-106	0				
4-Chloro-3-methylphenol	1150	33	1333	0	86.3	51-101	0				
4-Chloroaniline	511.3	67	1333	0	38.4	27-110	0				
4-Chlorophenyl phenyl ether	1118	33	1333	0	83.9	58-106	0				
4-Nitroaniline	1093	170	1333	0	82	21-100	0				
4-Nitrophenol	1063	170	1333	0	79.8	29-120	0				
Acenaphthene	1125	6.7	1333	0	84.4	55-101	0				
Acenaphthylene	1139	6.7	1333	0	85.5	59-106	0				
Acetophenone	1133	33	1333	0	85	51-100	0				
Anthracene	1167	6.7	1333	0	87.6	67-105	0				
Atrazine	1081	33	1333	0	81.1	45-125	0				
Benzaldehyde	1129	67	1333	0	84.7	10-120	0				
Benzo(a)anthracene	1113	6.7	1333	0	83.5	68-105	0				
Benzo(a)pyrene	1150	6.7	1333	0	86.3	68-110	0				
Benzo(b)fluoranthene	1189	6.7	1333	0	89.2	65-110	0				
Benzo(g,h,i)perylene	1155	6.7	1333	0	86.6	60-120	0				
Benzo(k)fluoranthene	1233	6.7	1333	0	92.5	66-113	0				
Bis(2-chloroethoxy)methane	1168	33	1333	0	87.6	53-96	0				
Bis(2-chloroethyl)ether	1131	33	1333	0	84.9	47-108	0				
Bis(2-ethylhexyl)phthalate	1090	33	1333	0	81.8	59-117	0				
Butyl benzyl phthalate	1003	67	1333	0	75.3	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8		Method: SW846 8270D					
Caprolactam	1020	67	1333	0	76.5	42-105	0	
Carbazole	1121	33	1333	0	84.1	67-108	0	
Chrysene	1191	6.7	1333	0	89.4	68-108	0	
Dibenzo(a,h)anthracene	1134	6.7	1333	0	85.1	62-119	0	
Dibenzofuran	1121	33	1333	0	84.1	60-104	0	
Diethyl phthalate	1174	33	1333	0	88.1	62-111	0	
Dimethyl phthalate	1155	33	1333	0	86.6	62-106	0	
Di-n-butyl phthalate	1136	33	1333	0	85.2	59-105	0	
Di-n-octyl phthalate	1052	33	1333	0	78.9	51-123	0	
Fluoranthene	1082	6.7	1333	0	81.2	67-106	0	
Fluorene	1141	6.7	1333	0	85.6	59-107	0	
Hexachlorobenzene	1159	33	1333	0	87	62-103	0	
Hexachlorobutadiene	1159	33	1333	0	87	51-94	0	
Hexachlorocyclopentadiene	1201	33	1333	0	90.1	25-120	0	
Hexachloroethane	1135	33	1333	0	85.1	55-93	0	
Indeno(1,2,3-cd)pyrene	1159	6.7	1333	0	86.9	56-120	0	
Isophorone	1147	170	1333	0	86	52-99	0	
Naphthalene	1129	6.7	1333	0	84.7	46-98	0	
Nitrobenzene	1169	170	1333	0	87.7	53-95	0	
N-Nitrosodi-n-propylamine	1139	33	1333	0	85.4	50-104	0	
N-Nitrosodiphenylamine	1239	33	1333	0	93	63-107	0	
Pentachlorophenol	1077	33	1333	0	80.8	34-106	0	
Phenanthrene	1167	6.7	1333	0	87.6	66-101	0	
Phenol	1136	33	1333	0	85.2	44-109	0	
Pyrene	1315	6.7	1333	0	98.6	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2855</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>85.7</i>	<i>38-92</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>3021</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>90.6</i>	<i>44-107</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2838</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>85.1</i>	<i>37-109</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3427</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>103</i>	<i>52-123</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>2907</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>87.2</i>	<i>41-94</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>2847</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>85.4</i>	<i>28-111</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MS				Sample ID: 22020092-03B MS			Units: µg/Kg		Analysis Date: 2/4/2022 05:19 PM		
Client ID:		Run ID: SVMS8_220204A		SeqNo: 8155706		Prep Date: 2/3/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1075	33	1315	0	81.8	53-97	0				
1,2,4,5-Tetrachlorobenzene	1005	160	1315	0	76.5	51-96	0				
2,2'-Oxybis(1-chloropropane)	1064	33	1315	0	80.9	47-107	0				
2,3,4,6-Tetrachlorophenol	1278	66	1315	0	97.2	51-110	0				
2,4,5-Trichlorophenol	1098	33	1315	0	83.5	52-111	0				
2,4,6-Trichlorophenol	1124	33	1315	0	85.5	46-105	0				
2,4-Dichlorophenol	1111	33	1315	0	84.5	47-96	0				
2,4-Dimethylphenol	1142	33	1315	0	86.9	49-97	0				
2,4-Dinitrophenol	ND	660	1315	0	0	10-106	0			S	
2,4-Dinitrotoluene	1139	33	1315	0	86.6	58-110	0				
2,6-Dinitrotoluene	1036	33	1315	0	78.8	59-108	0				
2-Chloronaphthalene	979	6.6	1315	0	74.5	56-104	0				
2-Chlorophenol	1128	33	1315	0	85.8	50-104	0				
2-Methylnaphthalene	1149	6.6	1315	51.49	83.5	54-96	0				
2-Methylphenol	1116	33	1315	0	84.9	49-105	0				
2-Nitroaniline	1143	33	1315	0	86.9	54-107	0				
2-Nitrophenol	984.2	33	1315	0	74.9	51-94	0				
3&4-Methylphenol	1136	33	1315	0	86.4	48-105	0				
3,3'-Dichlorobenzidine	618	160	1315	0	47	39-99	0				
3-Nitroaniline	921.1	33	1315	0	70.1	17-92	0				
4,6-Dinitro-2-methylphenol	197.2	33	1315	0	15	32-103	0			S	
4-Bromophenyl phenyl ether	1054	33	1315	0	80.2	60-106	0				
4-Chloro-3-methylphenol	1176	33	1315	0	89.5	51-101	0				
4-Chloroaniline	844.2	66	1315	0	64.2	27-110	0				
4-Chlorophenyl phenyl ether	1039	33	1315	0	79.1	58-106	0				
4-Nitroaniline	1009	160	1315	0	76.7	21-100	0				
4-Nitrophenol	813.3	160	1315	0	61.9	29-120	0				
Acenaphthene	994.7	6.6	1315	0	75.7	55-101	0				
Acenaphthylene	1037	6.6	1315	0	78.9	59-106	0				
Acetophenone	1066	33	1315	0	81.1	51-100	0				
Anthracene	1051	6.6	1315	0	80	67-105	0				
Atrazine	1202	33	1315	0	91.4	45-125	0				
Benzaldehyde	1042	66	1315	0	79.3	10-120	0				
Benzo(a)anthracene	973	6.6	1315	0	74	68-105	0				
Benzo(a)pyrene	1043	6.6	1315	0	79.3	68-110	0				
Benzo(b)fluoranthene	1038	6.6	1315	0	79	65-110	0				
Benzo(g,h,i)perylene	805.4	6.6	1315	0	61.3	60-120	0				
Benzo(k)fluoranthene	1048	6.6	1315	0	79.7	66-113	0				
Bis(2-chloroethoxy)methane	1085	33	1315	0	82.5	53-96	0				
Bis(2-chloroethyl)ether	1103	33	1315	0	83.9	47-108	0				
Bis(2-ethylhexyl)phthalate	1152	33	1315	0	87.6	59-117	0				
Butyl benzyl phthalate	1088	66	1315	0	82.8	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8		Method: SW846 8270D						
Caprolactam	1813	66	1315	0	138	42-105	0	S	
Carbazole	1007	33	1315	0	76.6	67-108	0		
Chrysene	992.1	6.6	1315	0	75.5	68-108	0		
Dibenzo(a,h)anthracene	840.9	6.6	1315	0	64	62-119	0		
Dibenzofuran	1062	33	1315	0	80.8	60-104	0		
Diethyl phthalate	1185	33	1315	0	90.1	62-111	0		
Dimethyl phthalate	1087	33	1315	0	82.7	62-106	0		
Di-n-butyl phthalate	1160	33	1315	0	88.2	59-105	0		
Di-n-octyl phthalate	1327	33	1315	0	101	51-123	0		
Fluoranthene	1053	6.6	1315	0	80.1	67-106	0		
Fluorene	1072	6.6	1315	0	81.5	59-107	0		
Hexachlorobenzene	979	33	1315	0	74.5	62-103	0		
Hexachlorobutadiene	975	33	1315	0	74.2	51-94	0		
Hexachlorocyclopentadiene	510.8	33	1315	0	38.9	25-120	0		
Hexachloroethane	1043	33	1315	0	79.3	55-93	0		
Indeno(1,2,3-cd)pyrene	915.2	6.6	1315	0	69.6	56-120	0		
Isophorone	1156	160	1315	0	88	52-99	0		
Naphthalene	1012	6.6	1315	0	77	46-98	0		
Nitrobenzene	1014	160	1315	0	77.2	53-95	0		
N-Nitrosodi-n-propylamine	1160	33	1315	0	88.3	50-104	0		
N-Nitrosodiphenylamine	1112	33	1315	0	84.6	63-107	0		
Pentachlorophenol	1112	33	1315	0	84.6	34-106	0		
Phenanthrene	1020	6.6	1315	0	77.6	66-101	0		
Phenol	1082	33	1315	0	82.3	44-109	0		
Pyrene	1053	6.6	1315	0	80.1	60-119	0		
<i>Surr: 2,4,6-Tribromophenol</i>	2706	0	3287	0	82.3	38-92	0		
<i>Surr: 2-Fluorobiphenyl</i>	2537	0	3287	0	77.2	44-107	0		
<i>Surr: 2-Fluorophenol</i>	2651	0	3287	0	80.6	37-109	0		
<i>Surr: 4-Terphenyl-d14</i>	2784	0	3287	0	84.7	52-123	0		
<i>Surr: Nitrobenzene-d5</i>	2611	0	3287	0	79.4	41-94	0		
<i>Surr: Phenol-d6</i>	2736	0	3287	0	83.2	28-111	0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MSD				Sample ID: 22020092-03B MSD			Units: µg/Kg		Analysis Date: 2/4/2022 05:39 PM		
Client ID:		Run ID: SVMS8_220204A		SeqNo: 8155707		Prep Date: 2/3/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1108	33	1314	0	84.3	53-97	1075	2.99	30		
1,2,4,5-Tetrachlorobenzene	1046	160	1314	0	79.6	51-96	1005	3.95	30		
2,2'-Oxybis(1-chloropropane)	1110	33	1314	0	84.4	47-107	1064	4.22	30		
2,3,4,6-Tetrachlorophenol	1311	66	1314	0	99.8	51-110	1278	2.57	30		
2,4,5-Trichlorophenol	1181	33	1314	0	89.9	52-111	1098	7.31	30		
2,4,6-Trichlorophenol	1194	33	1314	0	90.9	46-105	1124	6.11	30		
2,4-Dichlorophenol	1171	33	1314	0	89.1	47-96	1111	5.28	30		
2,4-Dimethylphenol	1168	33	1314	0	88.9	49-97	1142	2.26	30		
2,4-Dinitrophenol	ND	660	1314	0	0	10-106	21.04	0	30	S	
2,4-Dinitrotoluene	1181	33	1314	0	89.8	58-110	1139	3.61	30		
2,6-Dinitrotoluene	1115	33	1314	0	84.9	59-108	1036	7.37	30		
2-Chloronaphthalene	1045	6.6	1314	0	79.5	56-104	979	6.54	30		
2-Chlorophenol	1187	33	1314	0	90.3	50-104	1128	5.09	30		
2-Methylnaphthalene	1207	6.6	1314	51.49	87.9	54-96	1149	4.95	30		
2-Methylphenol	1154	33	1314	0	87.8	49-105	1116	3.28	30		
2-Nitroaniline	1200	33	1314	0	91.3	54-107	1143	4.86	30		
2-Nitrophenol	1197	33	1314	0	91.1	51-94	984.2	19.5	30		
3&4-Methylphenol	1193	33	1314	0	90.8	48-105	1136	4.89	30		
3,3'-Dichlorobenzidine	608.7	160	1314	0	46.3	39-99	618	1.52	30		
3-Nitroaniline	993.2	33	1314	0	75.6	17-92	921.1	7.54	30		
4,6-Dinitro-2-methylphenol	264.2	33	1314	0	20.1	32-103	197.2	29	30	S	
4-Bromophenyl phenyl ether	1117	33	1314	0	85	60-106	1054	5.8	30		
4-Chloro-3-methylphenol	1197	33	1314	0	91.1	51-101	1176	1.75	30		
4-Chloroaniline	919	66	1314	0	69.9	27-110	844.2	8.48	30		
4-Chlorophenyl phenyl ether	1058	33	1314	0	80.5	58-106	1039	1.74	30		
4-Nitroaniline	901.2	160	1314	0	68.6	21-100	1009	11.2	30		
4-Nitrophenol	939.3	160	1314	0	71.5	29-120	813.3	14.4	30		
Acenaphthene	1029	6.6	1314	0	78.3	55-101	994.7	3.42	30		
Acenaphthylene	1083	6.6	1314	0	82.4	59-106	1037	4.32	30		
Acetophenone	1128	33	1314	0	85.8	51-100	1066	5.67	30		
Anthracene	1084	6.6	1314	0	82.5	67-105	1051	3.06	30		
Atrazine	1182	33	1314	0	89.9	45-125	1202	1.67	30		
Benzaldehyde	1115	66	1314	0	84.9	10-120	1042	6.8	30		
Benzo(a)anthracene	994.5	6.6	1314	0	75.7	68-105	973	2.19	30		
Benzo(a)pyrene	1041	6.6	1314	0	79.2	68-110	1043	0.145	30		
Benzo(b)fluoranthene	1039	6.6	1314	0	79	65-110	1038	0.0443	30		
Benzo(g,h,i)perylene	892	6.6	1314	0	67.9	60-120	805.4	10.2	30		
Benzo(k)fluoranthene	1033	6.6	1314	0	78.6	66-113	1048	1.41	30		
Bis(2-chloroethoxy)methane	1137	33	1314	0	86.5	53-96	1085	4.66	30		
Bis(2-chloroethyl)ether	1149	33	1314	0	87.4	47-108	1103	4.07	30		
Bis(2-ethylhexyl)phthalate	1169	33	1314	0	89	59-117	1152	1.51	30		
Butyl benzyl phthalate	1129	66	1314	0	85.9	59-106	1088	3.72	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8			Method: SW846 8270D						
Caprolactam	1366	66	1314	0	104	42-105	1813	28.1	30	
Carbazole	974.2	33	1314	0	74.1	67-108	1007	3.34	30	
Chrysene	1024	6.6	1314	0	77.9	68-108	992.1	3.18	30	
Dibenzo(a,h)anthracene	913.7	6.6	1314	0	69.5	62-119	840.9	8.3	30	
Dibenzofuran	1093	33	1314	0	83.2	60-104	1062	2.91	30	
Diethyl phthalate	1201	33	1314	0	91.4	62-111	1185	1.36	30	
Dimethyl phthalate	1148	33	1314	0	87.3	62-106	1087	5.39	30	
Di-n-butyl phthalate	1159	33	1314	0	88.2	59-105	1160	0.0759	30	
Di-n-octyl phthalate	1293	33	1314	0	98.4	51-123	1327	2.63	30	
Fluoranthene	1058	6.6	1314	0	80.5	67-106	1053	0.479	30	
Fluorene	1102	6.6	1314	0	83.8	59-107	1072	2.76	30	
Hexachlorobenzene	1018	33	1314	0	77.4	62-103	979	3.87	30	
Hexachlorobutadiene	1011	33	1314	0	76.9	51-94	975	3.62	30	
Hexachlorocyclopentadiene	747.4	33	1314	0	56.9	25-120	510.8	37.6	30	R
Hexachloroethane	1092	33	1314	0	83.1	55-93	1043	4.66	30	
Indeno(1,2,3-cd)pyrene	982.1	6.6	1314	0	74.7	56-120	915.2	7.05	30	
Isophorone	1155	160	1314	0	87.9	52-99	1156	0.134	30	
Naphthalene	1061	6.6	1314	0	80.7	46-98	1012	4.67	30	
Nitrobenzene	1091	160	1314	0	83	53-95	1014	7.29	30	
N-Nitrosodi-n-propylamine	1169	33	1314	0	89	50-104	1160	0.771	30	
N-Nitrosodiphenylamine	1140	33	1314	0	86.7	63-107	1112	2.43	30	
Pentachlorophenol	1205	33	1314	0	91.7	34-106	1112	7.98	30	
Phenanthrene	1068	6.6	1314	0	81.3	66-101	1020	4.64	30	
Phenol	1132	33	1314	0	86.1	44-109	1082	4.49	30	
Pyrene	1131	6.6	1314	0	86.1	60-119	1053	7.2	30	
<i>Surr: 2,4,6-Tribromophenol</i>	2836	0	3286	0	86.3	38-92	2706	4.68	40	
<i>Surr: 2-Fluorobiphenyl</i>	2679	0	3286	0	81.5	44-107	2537	5.43	40	
<i>Surr: 2-Fluorophenol</i>	2807	0	3286	0	85.4	37-109	2651	5.74	40	
<i>Surr: 4-Terphenyl-d14</i>	2995	0	3286	0	91.1	52-123	2784	7.33	40	
<i>Surr: Nitrobenzene-d5</i>	2738	0	3286	0	83.3	41-94	2611	4.75	40	
<i>Surr: Phenol-d6</i>	2844	0	3286	0	86.5	28-111	2736	3.87	40	

The following samples were analyzed in this batch:

22020012-11B	22020012-12B	22020012-13B
22020012-14B	22020012-15B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155 Instrument ID VMS9 Method: SW8260C

MBLK		Sample ID: MBLK-191155-191155				Units: µg/Kg-dry		Analysis Date: 2/2/2022 03:31 PM		
Client ID:		Run ID: VMS9_220202A		SeqNo: 8147940		Prep Date: 2/1/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromochloromethane	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020012
Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155	Instrument ID VMS9	Method: SW8260C						
Hexachloroethane	ND	100						
Isopropylbenzene	ND	30						
m,p-Xylene	ND	60						
Methyl iodide	ND	500						
Methyl tert-butyl ether	ND	30						
Methylene chloride	ND	250						
Naphthalene	ND	100						
n-Propylbenzene	ND	30						
o-Xylene	ND	30						
Styrene	ND	30						
Tetrachloroethene	ND	30						
Toluene	ND	30						
trans-1,2-Dichloroethene	ND	30						
trans-1,3-Dichloropropene	ND	30						
trans-1,4-Dichloro-2-butene	ND	30						
Trichloroethene	ND	30						
Trichlorofluoromethane	ND	30						
Vinyl acetate	ND	250						
Vinyl chloride	ND	30						
Xylenes, Total	ND	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1032</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>964.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.4</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>984.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1120</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>112</i>	<i>70-130</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155 Instrument ID VMS9 Method: SW8260C

LCS		Sample ID: LCS-191155-191155			Units: µg/Kg-dry		Analysis Date: 2/2/2022 02:28 PM			
Client ID:		Run ID: VMS9_220202A			SeqNo: 8147937		Prep Date: 2/1/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1060	30	1000	0	106	75-125	0			
1,1,1-Trichloroethane	997	30	1000	0	99.7	70-135	0			
1,1,2,2-Tetrachloroethane	937.5	30	1000	0	93.8	55-130	0			
1,1,2-Trichloroethane	1044	30	1000	0	104	60-125	0			
1,1-Dichloroethane	876.5	30	1000	0	87.6	75-125	0			
1,1-Dichloroethene	823	30	1000	0	82.3	76-148	0			
1,2,3-Trichloropropane	1019	30	1000	0	102	65-130	0			
1,2,4-Trichlorobenzene	909	100	1000	0	90.9	65-130	0			
1,2,4-Trimethylbenzene	1006	30	1000	0	101	65-135	0			
1,2-Dibromo-3-chloropropane	1109	100	1000	0	111	40-135	0			
1,2-Dibromoethane	1028	30	1000	0	103	80-195	0			
1,2-Dichlorobenzene	975	30	1000	0	97.5	75-120	0			
1,2-Dichloroethane	982	100	1000	0	98.2	70-135	0			
1,2-Dichloropropane	893	30	1000	0	89.3	70-120	0			
1,3,5-Trimethylbenzene	1015	100	1000	0	102	65-135	0			
1,3-Dichlorobenzene	962.5	30	1000	0	96.2	70-125	0			
1,4-Dichlorobenzene	974	30	1000	0	97.4	70-125	0			
2-Butanone	1002	200	1000	0	100	30-160	0			
2-Hexanone	1038	30	1000	0	104	45-145	0			
4-Methyl-2-pentanone	1454	30	1000	0	145	74-176	0			
Acetone	1213	100	1000	0	121	20-160	0			
Acrylonitrile	891	100	1000	0	89.1	70-135	0			
Benzene	916.5	30	1000	0	91.6	75-125	0			
Bromochloromethane	856	30	1000	0	85.6	74-134	0			
Bromodichloromethane	942.5	30	1000	0	94.2	70-130	0			
Bromoform	1008	30	1000	0	101	55-135	0			
Bromomethane	1128	100	1000	0	113	50-170	0			
Carbon disulfide	886.5	30	1000	0	88.6	45-160	0			
Carbon tetrachloride	1032	30	1000	0	103	65-135	0			
Chlorobenzene	1034	30	1000	0	103	75-125	0			
Chloroethane	720.5	100	1000	0	72	40-155	0			
Chloroform	880.5	30	1000	0	88	66-140	0			
Chloromethane	504.5	100	1000	0	50.4	50-144	0			
cis-1,2-Dichloroethene	945.5	30	1000	0	94.6	65-125	0			
cis-1,3-Dichloropropene	905	30	1000	0	90.5	70-125	0			
Dibromochloromethane	908.5	30	1000	0	90.8	65-135	0			
Dibromomethane	944.5	30	1000	0	94.4	75-130	0			
Dichlorodifluoromethane	676	100	1000	0	67.6	35-135	0			
Diethyl ether	1022	30	1000	0	102	67-150	0			
Ethylbenzene	966	30	1000	0	96.6	75-125	0			
Hexachloroethane	840	100	1000	0	84	51-122	0			
Isopropylbenzene	1008	30	1000	0	101	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020012
Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155	Instrument ID VMS9		Method: SW8260C					
m,p-Xylene	2018	60	2000	0	101	80-125	0	
Methyl iodide	2446	500	1000	0	245	64-180	0	S
Methyl tert-butyl ether	980	30	1000	0	98	75-125	0	
Methylene chloride	833	250	1000	0	83.3	55-145	0	
Naphthalene	836.5	100	1000	0	83.6	40-140	0	
n-Propylbenzene	1000	30	1000	0	100	65-135	0	
o-Xylene	944	30	1000	0	94.4	75-125	0	
Styrene	988	30	1000	0	98.8	80-138	0	
Tetrachloroethene	1135	30	1000	0	114	67-167	0	
Toluene	971	30	1000	0	97.1	70-125	0	
trans-1,2-Dichloroethene	865	30	1000	0	86.5	65-135	0	
trans-1,3-Dichloropropene	946	30	1000	0	94.6	59-129	0	
trans-1,4-Dichloro-2-butene	844.5	30	1000	0	84.4	62-112	0	
Trichloroethene	893	30	1000	0	89.3	75-125	0	
Trichlorofluoromethane	843.5	30	1000	0	84.4	25-185	0	
Vinyl chloride	728.5	30	1000	0	72.8	60-125	0	
Xylenes, Total	2962	90	3000	0	98.7	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>988</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.8</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1012</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1048</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>105</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1012</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155 Instrument ID VMS9 Method: SW8260C

MS				Sample ID: 22020012-01A MS		Units: µg/Kg-dry		Analysis Date: 2/2/2022 09:47 PM		
Client ID: SB-43 (5-6')			Run ID: VMS9_220202A		SeqNo: 8147964		Prep Date: 2/1/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	795	26	878	0	90.5	75-125	0			
1,1,1-Trichloroethane	795.4	26	878	0	90.6	70-135	0			
1,1,2,2-Tetrachloroethane	611.5	26	878	0	69.7	55-130	0			
1,1,2-Trichloroethane	893.3	26	878	0	102	60-125	0			
1,1-Dichloroethane	682.2	26	878	0	77.7	75-125	0			
1,1-Dichloroethene	590.9	26	878	0	67.3	76-148	0			S
1,2,3-Trichloropropane	1008	26	878	0	115	65-130	0			
1,2,4-Trichlorobenzene	880.2	88	878	0	100	65-130	0			
1,2,4-Trimethylbenzene	866.6	26	878	0	98.7	65-135	0			
1,2-Dibromo-3-chloropropane	862.6	88	878	0	98.3	40-135	0			
1,2-Dibromoethane	863	26	878	0	98.3	80-195	0			
1,2-Dichlorobenzene	876.6	26	878	0	99.8	75-120	0			
1,2-Dichloroethane	800.3	88	878	0	91.1	70-135	0			
1,2-Dichloropropane	729.6	26	878	0	83.1	70-120	0			
1,3,5-Trimethylbenzene	880.2	88	878	0	100	65-135	0			
1,3-Dichlorobenzene	875.8	26	878	0	99.7	70-125	0			
1,4-Dichlorobenzene	881.5	26	878	0	100	70-125	0			
2-Butanone	1285	180	878	0	146	30-160	0			
2-Hexanone	1194	26	878	0	136	45-145	0			
4-Methyl-2-pentanone	1046	26	878	0	119	74-176	0			
Acetone	1864	88	878	0	212	20-160	0			S
Acrylonitrile	755.9	88	878	0	86.1	70-135	0			
Benzene	746.7	26	878	0	85	75-125	0			
Bromochloromethane	587.8	26	878	0	67	74-134	0			S
Bromodichloromethane	722.6	26	878	0	82.3	70-130	0			
Bromoform	771.7	26	878	0	87.9	55-135	0			
Bromomethane	544.8	88	878	0	62.1	50-170	0			
Carbon disulfide	497.4	26	878	0	56.7	45-160	0			
Carbon tetrachloride	798.9	26	878	0	91	65-135	0			
Chlorobenzene	851.6	26	878	0	97	75-125	0			
Chloroethane	393.3	88	878	0	44.8	40-155	0			
Chloroform	802.9	26	878	0	91.4	66-140	0			
Chloromethane	292.4	88	878	0	33.3	50-144	0			S
cis-1,2-Dichloroethene	700.2	26	878	0	79.7	65-125	0			
cis-1,3-Dichloropropene	661.5	26	878	0	75.4	70-125	0			
Dibromochloromethane	700.6	26	878	0	79.8	65-135	0			
Dibromomethane	813.9	26	878	0	92.7	75-130	0			
Dichlorodifluoromethane	472.3	88	878	0	53.8	35-135	0			
Diethyl ether	640.5	26	878	0	73	67-150	0			
Ethylbenzene	783.1	26	878	0	89.2	75-125	0			
Hexachloroethane	718.6	88	878	0	81.9	51-122	0			
Isopropylbenzene	871.8	26	878	0	99.3	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020012
Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155	Instrument ID VMS9		Method: SW8260C					
m,p-Xylene	1666	53	1756	0	94.9	80-125	0	
Methyl iodide	2103	440	878	0	239	64-180	0	S
Methyl tert-butyl ether	780.5	26	878	0	88.9	75-125	0	
Methylene chloride	658	220	878	0	74.9	55-145	0	
Naphthalene	741.4	88	878	0	84.5	40-140	0	
n-Propylbenzene	830.1	26	878	0	94.6	65-135	0	
o-Xylene	791.5	26	878	0	90.2	75-125	0	
Styrene	817.4	26	878	0	93.1	80-138	0	
Tetrachloroethene	1827	26	878	0	208	67-167	0	S
Toluene	818.7	26	878	0	93.2	70-125	0	
trans-1,2-Dichloroethene	660.2	26	878	0	75.2	65-135	0	
trans-1,3-Dichloropropene	716	26	878	0	81.6	59-129	0	
trans-1,4-Dichloro-2-butene	727	26	878	0	82.8	62-112	0	
Trichloroethene	1049	26	878	0	120	75-125	0	
Trichlorofluoromethane	641.4	26	878	0	73.1	25-185	0	
Vinyl chloride	440.7	26	878	0	50.2	60-125	0	S
Xylenes, Total	2457	79	2634	0	93.3	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	882.8	0	878	0	101	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	900.4	0	878	0	103	70-130	0	
<i>Surr: Dibromofluoromethane</i>	885	0	878	0	101	70-130	0	
<i>Surr: Toluene-d8</i>	956.5	0	878	0	109	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155 Instrument ID VMS9 Method: SW8260C

MSD				Sample ID: 22020012-01A MSD		Units: µg/Kg-dry		Analysis Date: 2/2/2022 10:03 PM		
Client ID: SB-43 (5-6')		Run ID: VMS9_220202A		SeqNo: 8147965		Prep Date: 2/1/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	786.7	26	878	0	89.6	75-125	795	1.05	30	
1,1,1-Trichloroethane	742.8	26	878	0	84.6	70-135	795.4	6.85	30	
1,1,2,2-Tetrachloroethane	568	26	878	0	64.7	55-130	611.5	7.37	30	
1,1,2-Trichloroethane	892.9	26	878	0	102	60-125	893.3	0.0492	30	
1,1-Dichloroethane	713.8	26	878	0	81.3	75-125	682.2	4.53	30	
1,1-Dichloroethene	625.5	26	878	0	71.2	76-148	590.9	5.7	30	S
1,2,3-Trichloropropane	953.9	26	878	0	109	65-130	1008	5.5	30	
1,2,4-Trichlorobenzene	807.3	88	878	0	92	65-130	880.2	8.64	30	
1,2,4-Trimethylbenzene	843.7	26	878	0	96.1	65-135	866.6	2.67	30	
1,2-Dibromo-3-chloropropane	801.6	88	878	0	91.3	40-135	862.6	7.33	30	
1,2-Dibromoethane	863	26	878	0	98.3	80-195	863	0	30	
1,2-Dichlorobenzene	869.6	26	878	0	99	75-120	876.6	0.804	30	
1,2-Dichloroethane	761.6	88	878	0	86.8	70-135	800.3	4.95	30	
1,2-Dichloropropane	730	26	878	0	83.1	70-120	729.6	0.0602	30	
1,3,5-Trimethylbenzene	905.2	88	878	0	103	65-135	880.2	2.8	30	
1,3-Dichlorobenzene	839.8	26	878	0	95.7	70-125	875.8	4.2	30	
1,4-Dichlorobenzene	856.9	26	878	0	97.6	70-125	881.5	2.83	30	
2-Butanone	1288	180	878	0	147	30-160	1285	0.239	30	
2-Hexanone	1124	26	878	0	128	45-145	1194	6.02	30	
4-Methyl-2-pentanone	994.3	26	878	0	113	74-176	1046	5.04	30	
Acetone	1663	88	878	0	189	20-160	1864	11.4	30	S
Acrylonitrile	730.5	88	878	0	83.2	70-135	755.9	3.43	30	
Benzene	745	26	878	0	84.8	75-125	746.7	0.235	30	
Bromochloromethane	645.3	26	878	0	73.5	74-134	587.8	9.33	30	S
Bromodichloromethane	735.7	26	878	0	83.8	70-130	722.6	1.81	30	
Bromoform	785.8	26	878	0	89.5	55-135	771.7	1.8	30	
Bromomethane	550.5	88	878	0	62.7	50-170	544.8	1.04	30	
Carbon disulfide	529.9	26	878	0	60.3	45-160	497.4	6.32	30	
Carbon tetrachloride	789.3	26	878	0	89.9	65-135	798.9	1.22	30	
Chlorobenzene	877.1	26	878	0	99.9	75-125	851.6	2.95	30	
Chloroethane	344.6	88	878	0	39.3	40-155	393.3	13.2	30	S
Chloroform	771.3	26	878	0	87.8	66-140	802.9	4.02	30	
Chloromethane	298.1	88	878	0	34	50-144	292.4	1.93	30	S
cis-1,2-Dichloroethene	729.6	26	878	0	83.1	65-125	700.2	4.11	30	
cis-1,3-Dichloropropene	704.1	26	878	0	80.2	70-125	661.5	6.24	30	
Dibromochloromethane	666.4	26	878	0	75.9	65-135	700.6	5.01	30	
Dibromomethane	776.6	26	878	0	88.4	75-130	813.9	4.69	30	
Dichlorodifluoromethane	456.5	88	878	0	52	35-135	472.3	3.4	30	
Diethyl ether	662.4	26	878	0	75.5	67-150	640.5	3.37	30	
Ethylbenzene	804.7	26	878	0	91.6	75-125	783.1	2.71	30	
Hexachloroethane	710.3	88	878	0	80.9	51-122	718.6	1.17	30	
Isopropylbenzene	872.7	26	878	0	99.4	75-130	871.8	0.101	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191155	Instrument ID VMS9			Method: SW8260C						
m,p-Xylene	1683	53	1756	0	95.9	80-125	1666	1.02	30	
Methyl iodide	2114	440	878	0	241	64-180	2103	0.521	30	S
Methyl tert-butyl ether	795	26	878	0	90.5	75-125	780.5	1.84	30	
Methylene chloride	654.1	220	878	0	74.5	55-145	658	0.602	30	
Naphthalene	724.8	88	878	0	82.5	40-140	741.4	2.28	30	
n-Propylbenzene	832.7	26	878	0	94.9	65-135	830.1	0.317	30	
o-Xylene	795.9	26	878	0	90.6	75-125	791.5	0.553	30	
Styrene	834.1	26	878	0	95	80-138	817.4	2.02	30	
Tetrachloroethene	1816	26	878	0	207	67-167	1827	0.602	30	S
Toluene	801.6	26	878	0	91.3	70-125	818.7	2.11	30	
trans-1,2-Dichloroethene	668.1	26	878	0	76.1	65-135	660.2	1.19	30	
trans-1,3-Dichloropropene	741	26	878	0	84.4	59-129	716	3.43	30	
trans-1,4-Dichloro-2-butene	788.9	26	878	0	89.9	62-112	727	8.17	30	
Trichloroethene	1012	26	878	0	115	75-125	1049	3.58	30	
Trichlorofluoromethane	632.1	26	878	0	72	25-185	641.4	1.45	30	
Vinyl chloride	462.2	26	878	0	52.6	60-125	440.7	4.76	30	S
Xylenes, Total	2479	79	2634	0	94.1	75-125	2457	0.871	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>886.7</i>	<i>0</i>	<i>878</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>882.8</i>	<i>0.447</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>927.6</i>	<i>0</i>	<i>878</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>900.4</i>	<i>2.98</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>906.5</i>	<i>0</i>	<i>878</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>885</i>	<i>2.4</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>968.8</i>	<i>0</i>	<i>878</i>	<i>0</i>	<i>110</i>	<i>70-130</i>	<i>956.5</i>	<i>1.28</i>	<i>30</i>	

The following samples were analyzed in this batch:

22020012-01A	22020012-02A	22020012-03A
22020012-04A	22020012-05A	22020012-06A
22020012-07A	22020012-08A	22020012-09A
22020012-10A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191167 Instrument ID VMS9 Method: SW8260C

MS				Sample ID: 22020012-11A MS			Units: µg/Kg-dry		Analysis Date: 2/2/2022 09:16 PM		
Client ID: SB-53 (2-3')			Run ID: VMS9_220202A		SeqNo: 8147962		Prep Date: 2/1/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1,2-Tetrachloroethane	1168	36	1213	0	96.3	75-125	0				
1,1,1-Trichloroethane	1106	36	1213	0	91.2	70-135	0				
1,1,2,2-Tetrachloroethane	1116	36	1213	0	92	55-130	0				
1,1,2-Trichloroethane	1227	36	1213	0	101	60-125	0				
1,1-Dichloroethane	917.4	36	1213	0	75.7	75-125	0				
1,1-Dichloroethene	812.5	36	1213	0	67	76-148	0			S	
1,2,3-Trichloropropane	1370	36	1213	0	113	65-130	0				
1,2,4-Trichlorobenzene	1096	120	1213	0	90.4	65-130	0				
1,2,4-Trimethylbenzene	1228	36	1213	0	101	65-135	0				
1,2-Dibromo-3-chloropropane	1124	120	1213	0	92.7	40-135	0				
1,2-Dibromoethane	1206	36	1213	0	99.4	80-195	0				
1,2-Dichlorobenzene	1265	36	1213	0	104	75-120	0				
1,2-Dichloroethane	1110	120	1213	0	91.6	70-135	0				
1,2-Dichloropropane	1085	36	1213	0	89.5	70-120	0				
1,3,5-Trimethylbenzene	1190	120	1213	0	98.2	65-135	0				
1,3-Dichlorobenzene	1179	36	1213	0	97.2	70-125	0				
1,4-Dichlorobenzene	1219	36	1213	0	101	70-125	0				
2-Butanone	1669	240	1213	0	138	30-160	0				
2-Hexanone	1651	36	1213	0	136	45-145	0				
4-Methyl-2-pentanone	1715	36	1213	0	141	74-176	0				
Acetone	2339	120	1213	0	193	20-160	0			S	
Acrylonitrile	988.4	120	1213	0	81.5	70-135	0				
Benzene	1034	36	1213	0	85.3	75-125	0				
Bromochloromethane	840.4	36	1213	0	69.3	74-134	0			S	
Bromodichloromethane	985.9	36	1213	0	81.3	70-130	0				
Bromoform	1139	36	1213	0	93.9	55-135	0				
Bromomethane	683.4	120	1213	0	56.4	50-170	0				
Carbon disulfide	683.4	36	1213	0	56.4	45-160	0				
Carbon tetrachloride	1087	36	1213	0	89.6	65-135	0				
Chlorobenzene	1228	36	1213	0	101	75-125	0				
Chloroethane	346.2	120	1213	0	28.6	40-155	0			S	
Chloroform	1030	36	1213	0	85	66-140	0				
Chloromethane	351.7	120	1213	0	29	50-144	0			S	
cis-1,2-Dichloroethene	961.7	36	1213	0	79.3	65-125	0				
cis-1,3-Dichloropropene	973.2	36	1213	0	80.3	70-125	0				
Dibromochloromethane	969.6	36	1213	0	80	65-135	0				
Dibromomethane	1024	36	1213	0	84.4	75-130	0				
Dichlorodifluoromethane	642.7	120	1213	0	53	35-135	0				
Diethyl ether	874.4	36	1213	0	72.1	67-150	0				
Ethylbenzene	1105	36	1213	0	91.1	75-125	0				
Hexachloroethane	958.7	120	1213	0	79.1	51-122	0				
Isopropylbenzene	1261	36	1213	0	104	75-130	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020012
Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191167	Instrument ID VMS9		Method: SW8260C					
m,p-Xylene	2378	73	2425	0	98	80-125	0	
Methyl iodide	2499	610	1213	0	206	64-180	0	S
Methyl tert-butyl ether	1037	36	1213	0	85.5	75-125	0	
Methylene chloride	847.1	300	1213	0	69.9	55-145	0	
Naphthalene	986.6	120	1213	0	81.4	40-140	0	
n-Propylbenzene	1164	36	1213	0	96	65-135	0	
o-Xylene	1113	36	1213	0	91.7	75-125	0	
Styrene	1177	36	1213	0	97.1	80-138	0	
Tetrachloroethene	2379	36	1213	0	196	67-167	0	S
Toluene	1108	36	1213	0	91.4	70-125	0	
trans-1,2-Dichloroethene	908.9	36	1213	0	75	65-135	0	
trans-1,3-Dichloropropene	1025	36	1213	0	84.5	59-129	0	
trans-1,4-Dichloro-2-butene	1237	36	1213	0	102	62-112	0	
Trichloroethene	1130	36	1213	0	93.2	75-125	0	
Trichlorofluoromethane	845.9	36	1213	0	69.8	25-185	0	
Vinyl chloride	633.6	36	1213	0	52.3	60-125	0	S
Xylenes, Total	3491	110	3638	0	95.9	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1247	0	1213	0	103	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1294	0	1213	0	107	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1231	0	1213	0	101	70-130	0	
<i>Surr: Toluene-d8</i>	1373	0	1213	0	113	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191167 Instrument ID VMS9 Method: SW8260C

MSD				Sample ID: 22020012-11A MSD			Units: µg/Kg-dry		Analysis Date: 2/2/2022 09:32 PM		
Client ID: SB-53 (2-3')				Run ID: VMS9_220202A			SeqNo: 8147963		Prep Date: 2/1/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1,2-Tetrachloroethane	1059	36	1213	0	87.3	75-125	1168	9.8	30		
1,1,1-Trichloroethane	1027	36	1213	0	84.7	70-135	1106	7.39	30		
1,1,2,2-Tetrachloroethane	1042	36	1213	0	85.9	55-130	1116	6.86	30		
1,1,2-Trichloroethane	1105	36	1213	0	91.1	60-125	1227	10.5	30		
1,1-Dichloroethane	898.6	36	1213	0	74.1	75-125	917.4	2.07	30	S	
1,1-Dichloroethene	779.8	36	1213	0	64.3	76-148	812.5	4.11	30	S	
1,2,3-Trichloropropane	1322	36	1213	0	109	65-130	1370	3.56	30		
1,2,4-Trichlorobenzene	1096	120	1213	0	90.4	65-130	1096	0.0547	30		
1,2,4-Trimethylbenzene	1125	36	1213	0	92.8	65-135	1228	8.76	30		
1,2-Dibromo-3-chloropropane	1138	120	1213	0	93.9	40-135	1124	1.29	30		
1,2-Dibromoethane	1165	36	1213	0	96.1	80-195	1206	3.43	30		
1,2-Dichlorobenzene	1172	36	1213	0	96.7	75-120	1265	7.61	30		
1,2-Dichloroethane	1053	120	1213	0	86.9	70-135	1110	5.27	30		
1,2-Dichloropropane	1023	36	1213	0	84.4	70-120	1085	5.93	30		
1,3,5-Trimethylbenzene	1136	120	1213	0	93.7	65-135	1190	4.69	30		
1,3-Dichlorobenzene	1127	36	1213	0	93	70-125	1179	4.52	30		
1,4-Dichlorobenzene	1173	36	1213	0	96.8	70-125	1219	3.85	30		
2-Butanone	1609	240	1213	0	133	30-160	1669	3.66	30		
2-Hexanone	1523	36	1213	0	126	45-145	1651	8.02	30		
4-Methyl-2-pentanone	1587	36	1213	0	131	74-176	1715	7.75	30		
Acetone	2148	120	1213	0	177	20-160	2339	8.49	30	S	
Acrylonitrile	943.5	120	1213	0	77.8	70-135	988.4	4.65	30		
Benzene	959.9	36	1213	0	79.2	75-125	1034	7.42	30		
Bromochloromethane	802.8	36	1213	0	66.2	74-134	840.4	4.58	30	S	
Bromodichloromethane	948.4	36	1213	0	78.2	70-130	985.9	3.89	30		
Bromoform	1018	36	1213	0	84	55-135	1139	11.2	30		
Bromomethane	665.8	120	1213	0	54.9	50-170	683.4	2.61	30		
Carbon disulfide	657.3	36	1213	0	54.2	45-160	683.4	3.89	30		
Carbon tetrachloride	1017	36	1213	0	83.9	65-135	1087	6.63	30		
Chlorobenzene	1138	36	1213	0	93.8	75-125	1228	7.64	30		
Chloroethane	312.9	120	1213	0	25.8	40-155	346.2	10.1	30	S	
Chloroform	1011	36	1213	0	83.4	66-140	1030	1.84	30		
Chloromethane	382.6	120	1213	0	31.6	50-144	351.7	8.42	30	S	
cis-1,2-Dichloroethene	885.9	36	1213	0	73.1	65-125	961.7	8.2	30		
cis-1,3-Dichloropropene	915	36	1213	0	75.5	70-125	973.2	6.17	30		
Dibromochloromethane	879.2	36	1213	0	72.5	65-135	969.6	9.77	30		
Dibromomethane	1010	36	1213	0	83.3	75-130	1024	1.37	30		
Dichlorodifluoromethane	552.4	120	1213	0	45.6	35-135	642.7	15.1	30		
Diethyl ether	898	36	1213	0	74.1	67-150	874.4	2.67	30		
Ethylbenzene	1028	36	1213	0	84.7	75-125	1105	7.22	30		
Hexachloroethane	865.3	120	1213	0	71.4	51-122	958.7	10.2	30		
Isopropylbenzene	1134	36	1213	0	93.5	75-130	1261	10.6	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: 191167	Instrument ID VMS9		Method: SW8260C							
m,p-Xylene	2231	73	2425	0	92	80-125	2378	6.37	30	
Methyl iodide	2531	610	1213	0	209	64-180	2499	1.28	30	S
Methyl tert-butyl ether	981.1	36	1213	0	80.9	75-125	1037	5.59	30	
Methylene chloride	782.8	300	1213	0	64.6	55-145	847.1	7.89	30	
Naphthalene	956.8	120	1213	0	78.9	40-140	986.6	3.06	30	
n-Propylbenzene	1108	36	1213	0	91.4	65-135	1164	4.86	30	
o-Xylene	1048	36	1213	0	86.4	75-125	1113	6.01	30	
Styrene	1111	36	1213	0	91.6	80-138	1177	5.78	30	
Tetrachloroethene	2288	36	1213	0	189	67-167	2379	3.9	30	S
Toluene	1056	36	1213	0	87.1	70-125	1108	4.82	30	
trans-1,2-Dichloroethene	853.2	36	1213	0	70.4	65-135	908.9	6.33	30	
trans-1,3-Dichloropropene	972.6	36	1213	0	80.2	59-129	1025	5.22	30	
trans-1,4-Dichloro-2-butene	988.4	36	1213	0	81.5	62-112	1237	22.3	30	
Trichloroethene	1133	36	1213	0	93.4	75-125	1130	0.214	30	
Trichlorofluoromethane	810.1	36	1213	0	66.8	25-185	845.9	4.32	30	
Vinyl chloride	567.6	36	1213	0	46.8	60-125	633.6	11	30	S
Xylenes, Total	3279	110	3638	0	90.1	75-125	3491	6.25	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	1236	0	1213	0	102	70-130	1247	0.879	30	
<i>Surr: 4-Bromofluorobenzene</i>	1295	0	1213	0	107	70-130	1294	0.0464	30	
<i>Surr: Dibromofluoromethane</i>	1200	0	1213	0	99	70-130	1231	2.54	30	
<i>Surr: Toluene-d8</i>	1358	0	1213	0	112	70-130	1373	1.07	30	

The following samples were analyzed in this batch:

22020012-11A	22020012-12A	22020012-13A
22020012-14A	22020012-15A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: **R337404** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R337404				Units: % of sample		Analysis Date: 2/1/2022 01:40 PM		
Client ID:		Run ID: MOIST_220201A				SeqNo: 8145553		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.10

LCS		Sample ID: LCS-R337404				Units: % of sample		Analysis Date: 2/1/2022 01:40 PM		
Client ID:		Run ID: MOIST_220201A				SeqNo: 8145552		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.10 100 0 100 98-102 0

DUP		Sample ID: 22020012-01B DUP				Units: % of sample		Analysis Date: 2/1/2022 01:40 PM		
Client ID: SB-43 (5-6')		Run ID: MOIST_220201A				SeqNo: 8145532		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.9 0.10 0 0 0 0-0 8.84 0.676 10

DUP		Sample ID: 22020012-11B DUP				Units: % of sample		Analysis Date: 2/1/2022 01:40 PM		
Client ID: SB-53 (2-3')		Run ID: MOIST_220201A				SeqNo: 8145545		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 12.94 0.10 0 0 0 0-0 14.49 11.3 10 R

The following samples were analyzed in this batch:

22020012-01B	22020012-02B	22020012-03B
22020012-04B	22020012-05B	22020012-06B
22020012-07B	22020012-08B	22020012-09B
22020012-10B	22020012-11B	22020012-12B
22020012-13B	22020012-14B	22020012-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020012
 Project: Coolidge Expansion

QC BATCH REPORT

Batch ID: **R337468** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R337468				Units: % of sample		Analysis Date: 2/2/2022 12:19 PM		
Client ID:		Run ID: MOIST_220202A				SeqNo: 8148310		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R337468				Units: % of sample		Analysis Date: 2/2/2022 12:19 PM		
Client ID:		Run ID: MOIST_220202A				SeqNo: 8148309		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020029-01A DUP				Units: % of sample		Analysis Date: 2/2/2022 12:19 PM		
Client ID:		Run ID: MOIST_220202A				SeqNo: 8148296		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	7.87	0.10	0	0	0	0-0	7.95	1.01	10	

DUP		Sample ID: 22020050-05A DUP				Units: % of sample		Analysis Date: 2/2/2022 12:19 PM		
Client ID:		Run ID: MOIST_220202A				SeqNo: 8148298		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.39	0.10	0	0	0	0-0	2.42	1.25	10	

The following samples were analyzed in this batch: 22020012-11B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

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Everett, WA
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Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 055110

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 22020012

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Coolidge Expansion Sites</u>	A	<u>VOCS</u>										
Work Order		Project Number	<u>1942-6994-50</u>	B	<u>SVOCs</u>										
Company Name	<u>DLZ</u>	Bill To Company		C	<u>MI 10 Metals</u>										
Send Report To	<u>Dan McNeely</u>	Invoice Attn	<u>adormeredlz.com</u>	D	<u>PCBs</u>										
Address	<u>1425 Keystone Ave</u>	Address		E											
City/State/Zip	<u>Lansing MI 48911</u>	City/State/Zip		F											
Phone	<u>517-393-6800</u>	Phone		G											
Fax		Fax		H											
e-Mail Address	<u>dmcneely@dlz.com</u>	e-Mail Address		I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>SB-43(5-6')</u>	<u>1-31-22</u>	<u>0915</u>	<u>Soil</u>	<u>7,8</u>	<u>3</u>	X	X	X	X							
2	<u>SB-44(7-8')</u>		<u>0945</u>			<u>3</u>	X	X	X	X							
3	<u>SB-45(2-3')</u>		<u>1015</u>			<u>3</u>	X	X	X	X							
4	<u>SB-46(11-12')</u>		<u>1030</u>			<u>2</u>	X	X	X	X							
5	<u>SB-47(4-5')</u>		<u>1115</u>			<u>3</u>	X	X	X	X							
6	<u>SB-48(2-3')</u>		<u>1130</u>			<u>3</u>	X	X	X	X							
7	<u>SB-49(2-3')</u>		<u>1145</u>			<u>3</u>	X	X	X	X							
8	<u>SB-50(1-2')</u>		<u>1200</u>			<u>3</u>	X	X	X	X							
9	<u>SB-51(3-4')</u>		<u>1340</u>			<u>3</u>	X	X	X	X							
10	<u>SB-52(1-2')</u>		<u>1400</u>			<u>3</u>	X	X	X	X							

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 7.5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:									
Relinquished by: <u>JS</u>	Date: <u>1/31/22</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Notes: <u>Sample #4 - one VOA broke in-transit</u>						Cooler ID <u>IRI</u>		Cooler Temp. <u>3.40c</u>		QC Package: (Check One Box Below)			
Relinquished by: <u>JS</u>	Date: <u>1/31/22</u>	Time: <u>2330</u>	Received by (Laboratory): <u>[Signature]</u>					<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist				<input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV					
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>2/1/22</u>	Time: <u>0924</u>	Checked by (Laboratory):					<input type="checkbox"/> Level IV SW846/CLP				<input type="checkbox"/> Other _____					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035																	

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

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Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

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COC ID: 055111

ALS Project Manager: _____ ALS Work Order #: 22020012

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	<u>Coolidge Expansion Sinks</u>	A	<u>VOCs</u>											
Work Order		Project Number		B	<u>SUOCs</u>											
Company Name	<u>DLZ</u>	Bill To Company		C	<u>MI 10 Metals</u>											
Send Report To		Invoice Attn		D	<u>PCBs</u>											
Address		Address		E												
City/State/Zip		City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>SB-53 (2-3')</u>	<u>1-31-22</u>	<u>1415</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
2	<u>SB-54 (2-3')</u>	↓	<u>1440</u>	↓	↓	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
3	<u>SB-55 (0-1')</u>	↓	<u>1500</u>	↓	↓	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
4	<u>SB-56 (1-2')</u>	↓	<u>1530</u>	↓	↓	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
5	<u>DUP-01</u>	↓	<u>0800</u>	↓	↓	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:	
Relinquished by:	Date: <u>1-31-22</u>	Time: <u>1700</u>	Received by:	Notes:					
Relinquished by: <u>Q5</u>	Date: <u>1/31/22</u>	Time: <u>2330</u>	Received by (Laboratory):	Cooler ID: <u>IR1</u>	Cooler Temp: <u>3.4°C</u>	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date: <u>2/1/22</u>	Time: <u>0924</u>	Checked by (Laboratory):	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other _____					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 31-Jan-22 23:30

Work Order: 22020012

Received by: LYS

Checklist completed by Lydia Sweet 01-Feb-22
eSignature Date

Reviewed by: Julian Johnson 02-Feb-22
eSignature Date

Matrices: Soil
Carrier name: Courier

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.4/3.4C IR1

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 2/1/2022 10:22:51 AM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



08-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Bus Terminal**

Work Order: **22020034**

Dear Dan,

ALS Environmental received 8 samples on 31-Jan-2022 11:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 33.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
Project: Coolidge Bus Terminal
Work Order: 22020034

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020034-01	SB-43 (0-2') Comp	Soil		1/31/2022 09:20	1/31/2022 23:30	<input type="checkbox"/>
22020034-02	SB-43 (0-2') Comp	Tclp Extract		1/31/2022 09:20	1/31/2022 23:30	<input type="checkbox"/>
22020034-03	SB-48 (0-2') Comp	Soil		1/31/2022 12:15	1/31/2022 23:30	<input type="checkbox"/>
22020034-04	SB-48 (0-2') Comp	Tclp Extract		1/31/2022 12:15	1/31/2022 23:30	<input type="checkbox"/>
22020034-05	SB-53 (0-2') Comp	Soil		1/31/2022 14:20	1/31/2022 23:30	<input type="checkbox"/>
22020034-06	SB-53 (0-2') Comp	Tclp Extract		1/31/2022 14:20	1/31/2022 23:30	<input type="checkbox"/>
22020034-07	SB-56 (0-2') Comp	Soil		1/31/2022 15:40	1/31/2022 23:30	<input type="checkbox"/>
22020034-08	SB-56 (0-2') Comp	Tclp Extract		1/31/2022 15:40	1/31/2022 23:30	<input type="checkbox"/>

Client: DLZ
Project: Coolidge Bus Terminal
Work Order: 22020034

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. A copy of the laboratory's scope of accreditation is available upon request.

Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

Any flags on MS/MSD samples not addressed in this narrative are unrelated to samples in this report.

With the following exceptions, all sample analyses achieved analytical criteria.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-43 (0-2') Comp
Collection Date: 1/31/2022 09:20 AM

Work Order: 22020034
Lab ID: 22020034-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/1/22 15:05		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 03:46 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 03:46 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 03:46 PM
<i>Surr: Decachlorobiphenyl</i>	72.4		60-138	%REC	1	2/2/2022 03:46 PM
<i>Surr: Tetrachloro-m-xylene</i>	75.3		65-125	%REC	1	2/2/2022 03:46 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	16		0.10	% of sample	1	2/1/2022 03:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-43 (0-2') Comp
Collection Date: 1/31/2022 09:20 AM

Work Order: 22020034
Lab ID: 22020034-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/4/22 13:37		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/4/2022 02:06 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/4/22 13:45		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 02:09 PM
Barium	0.67		0.050	mg/L	1	2/8/2022 01:13 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 02:09 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 02:09 PM
Lead	0.065		0.050	mg/L	1	2/7/2022 02:09 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 02:09 PM
Silver	ND		0.050	mg/L	1	2/7/2022 02:09 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/4/22 14:32		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/5/2022 12:46 AM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/5/2022 12:46 AM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/5/2022 12:46 AM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/5/2022 12:46 AM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/5/2022 12:46 AM
Hexachlorobenzene	ND		100	µg/L	1	2/5/2022 12:46 AM
Hexachloroethane	ND		100	µg/L	1	2/5/2022 12:46 AM
m-Cresol	ND		100	µg/L	1	2/5/2022 12:46 AM
Nitrobenzene	ND		100	µg/L	1	2/5/2022 12:46 AM
o-Cresol	ND		100	µg/L	1	2/5/2022 12:46 AM
p-Cresol	ND		100	µg/L	1	2/5/2022 12:46 AM
Pentachlorophenol	ND		100	µg/L	1	2/5/2022 12:46 AM
Pyridine	ND		200	µg/L	1	2/5/2022 12:46 AM
Surr: 2,4,6-Tribromophenol	79.1		27-83	%REC	1	2/5/2022 12:46 AM
Surr: 2-Fluorobiphenyl	75.6		26-79	%REC	1	2/5/2022 12:46 AM
Surr: 2-Fluorophenol	47.6		13-56	%REC	1	2/5/2022 12:46 AM
Surr: 4-Terphenyl-d14	68.6		43-106	%REC	1	2/5/2022 12:46 AM
Surr: Nitrobenzene-d5	70.5		29-80	%REC	1	2/5/2022 12:46 AM
Surr: Phenol-d6	31.4		10-35	%REC	1	2/5/2022 12:46 AM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/4/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/4/2022 03:31 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/4/2022 03:31 PM
2-Butanone	ND		100	µg/L	20	2/4/2022 03:31 PM
Benzene	ND		50	µg/L	20	2/4/2022 03:31 PM
Carbon tetrachloride	ND		20	µg/L	20	2/4/2022 03:31 PM
Chlorobenzene	ND		20	µg/L	20	2/4/2022 03:31 PM
Chloroform	ND		20	µg/L	20	2/4/2022 03:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-43 (0-2') Comp
Collection Date: 1/31/2022 09:20 AM

Work Order: 22020034
Lab ID: 22020034-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/4/2022 03:31 PM
Trichloroethene	ND		20	µg/L	20	2/4/2022 03:31 PM
Vinyl chloride	ND		20	µg/L	20	2/4/2022 03:31 PM
Surr: 1,2-Dichloroethane-d4	107		75-120	%REC	20	2/4/2022 03:31 PM
Surr: 4-Bromofluorobenzene	86.4		80-110	%REC	20	2/4/2022 03:31 PM
Surr: Dibromofluoromethane	105		85-115	%REC	20	2/4/2022 03:31 PM
Surr: Toluene-d8	101		85-110	%REC	20	2/4/2022 03:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-48 (0-2') Comp
Collection Date: 1/31/2022 12:15 PM

Work Order: 22020034
Lab ID: 22020034-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A		Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 03:19 AM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 03:19 AM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 03:19 AM
<i>Surr: Decachlorobiphenyl</i>	70.1		60-138	%REC	1	2/2/2022 03:19 AM
<i>Surr: Tetrachloro-m-xylene</i>	83.4		65-125	%REC	1	2/2/2022 03:19 AM
MOISTURE			SW3550C		Analyst: ALG	
Moisture	11		0.10	% of sample	1	2/1/2022 03:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-48 (0-2') Comp
Collection Date: 1/31/2022 12:15 PM

Work Order: 22020034
Lab ID: 22020034-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/4/22 13:37		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/4/2022 02:08 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/4/22 13:45		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 02:23 PM
Barium	0.54		0.050	mg/L	1	2/8/2022 01:42 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 02:23 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 02:23 PM
Lead	ND		0.050	mg/L	1	2/7/2022 02:23 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 02:23 PM
Silver	ND		0.050	mg/L	1	2/7/2022 02:23 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/4/22 14:32		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/5/2022 01:13 AM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/5/2022 01:13 AM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/5/2022 01:13 AM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/5/2022 01:13 AM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/5/2022 01:13 AM
Hexachlorobenzene	ND		100	µg/L	1	2/5/2022 01:13 AM
Hexachloroethane	ND		100	µg/L	1	2/5/2022 01:13 AM
m-Cresol	ND		100	µg/L	1	2/5/2022 01:13 AM
Nitrobenzene	ND		100	µg/L	1	2/5/2022 01:13 AM
o-Cresol	ND		100	µg/L	1	2/5/2022 01:13 AM
p-Cresol	ND		100	µg/L	1	2/5/2022 01:13 AM
Pentachlorophenol	ND		100	µg/L	1	2/5/2022 01:13 AM
Pyridine	ND		200	µg/L	1	2/5/2022 01:13 AM
Surr: 2,4,6-Tribromophenol	78.4		27-83	%REC	1	2/5/2022 01:13 AM
Surr: 2-Fluorobiphenyl	77.3		26-79	%REC	1	2/5/2022 01:13 AM
Surr: 2-Fluorophenol	48.5		13-56	%REC	1	2/5/2022 01:13 AM
Surr: 4-Terphenyl-d14	72.8		43-106	%REC	1	2/5/2022 01:13 AM
Surr: Nitrobenzene-d5	71.1		29-80	%REC	1	2/5/2022 01:13 AM
Surr: Phenol-d6	33.0		10-35	%REC	1	2/5/2022 01:13 AM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/4/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 03:42 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 03:42 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 03:42 PM
Benzene	ND		50	µg/L	20	2/7/2022 03:42 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 03:42 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 03:42 PM
Chloroform	ND		20	µg/L	20	2/7/2022 03:42 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-48 (0-2') Comp
Collection Date: 1/31/2022 12:15 PM

Work Order: 22020034
Lab ID: 22020034-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 03:42 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 03:42 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 03:42 PM
Surr: 1,2-Dichloroethane-d4	99.4		75-120	%REC	20	2/7/2022 03:42 PM
Surr: 4-Bromofluorobenzene	85.5		80-110	%REC	20	2/7/2022 03:42 PM
Surr: Dibromofluoromethane	98.4		85-115	%REC	20	2/7/2022 03:42 PM
Surr: Toluene-d8	95.4		85-110	%REC	20	2/7/2022 03:42 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-53 (0-2') Comp
Collection Date: 1/31/2022 02:20 PM

Work Order: 22020034
Lab ID: 22020034-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/1/22 15:05		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 03:59 PM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 03:59 PM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 03:59 PM
<i>Surr: Decachlorobiphenyl</i>	83.8		60-138	%REC	1	2/2/2022 03:59 PM
<i>Surr: Tetrachloro-m-xylene</i>	84.9		65-125	%REC	1	2/2/2022 03:59 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/1/2022 03:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-53 (0-2') Comp
Collection Date: 1/31/2022 02:20 PM

Work Order: 22020034
Lab ID: 22020034-06
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/4/22 13:37		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/4/2022 02:15 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/4/22 13:45		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 02:28 PM
Barium	0.60		0.050	mg/L	1	2/8/2022 01:47 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 02:28 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 02:28 PM
Lead	ND		0.050	mg/L	1	2/7/2022 02:28 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 02:28 PM
Silver	ND		0.050	mg/L	1	2/7/2022 02:28 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/4/22 14:32		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/5/2022 01:40 AM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/5/2022 01:40 AM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/5/2022 01:40 AM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/5/2022 01:40 AM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/5/2022 01:40 AM
Hexachlorobenzene	ND		100	µg/L	1	2/5/2022 01:40 AM
Hexachloroethane	ND		100	µg/L	1	2/5/2022 01:40 AM
m-Cresol	ND		100	µg/L	1	2/5/2022 01:40 AM
Nitrobenzene	ND		100	µg/L	1	2/5/2022 01:40 AM
o-Cresol	ND		100	µg/L	1	2/5/2022 01:40 AM
p-Cresol	ND		100	µg/L	1	2/5/2022 01:40 AM
Pentachlorophenol	ND		100	µg/L	1	2/5/2022 01:40 AM
Pyridine	ND		200	µg/L	1	2/5/2022 01:40 AM
Surr: 2,4,6-Tribromophenol	78.3		27-83	%REC	1	2/5/2022 01:40 AM
Surr: 2-Fluorobiphenyl	70.7		26-79	%REC	1	2/5/2022 01:40 AM
Surr: 2-Fluorophenol	44.5		13-56	%REC	1	2/5/2022 01:40 AM
Surr: 4-Terphenyl-d14	66.2		43-106	%REC	1	2/5/2022 01:40 AM
Surr: Nitrobenzene-d5	65.2		29-80	%REC	1	2/5/2022 01:40 AM
Surr: Phenol-d6	30.3		10-35	%REC	1	2/5/2022 01:40 AM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/4/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 03:24 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 03:24 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 03:24 PM
Benzene	ND		50	µg/L	20	2/7/2022 03:24 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 03:24 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 03:24 PM
Chloroform	ND		20	µg/L	20	2/7/2022 03:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-53 (0-2') Comp
Collection Date: 1/31/2022 02:20 PM

Work Order: 22020034
Lab ID: 22020034-06
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 03:24 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 03:24 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 03:24 PM
Surr: 1,2-Dichloroethane-d4	98.0		75-120	%REC	20	2/7/2022 03:24 PM
Surr: 4-Bromofluorobenzene	85.3		80-110	%REC	20	2/7/2022 03:24 PM
Surr: Dibromofluoromethane	104		85-115	%REC	20	2/7/2022 03:24 PM
Surr: Toluene-d8	94.0		85-110	%REC	20	2/7/2022 03:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-56 (0-2') Comp
Collection Date: 1/31/2022 03:40 PM

Work Order: 22020034
Lab ID: 22020034-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A		Analyst: RM	
Aroclor 1016	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1221	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1232	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1242	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1248	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1254	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1260	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1262	ND		66	µg/Kg	1	2/2/2022 03:44 AM
Aroclor 1268	ND		66	µg/Kg	1	2/2/2022 03:44 AM
PCBs, Total	ND		66	µg/Kg	1	2/2/2022 03:44 AM
<i>Surr: Decachlorobiphenyl</i>	81.0		60-138	%REC	1	2/2/2022 03:44 AM
<i>Surr: Tetrachloro-m-xylene</i>	89.5		65-125	%REC	1	2/2/2022 03:44 AM
MOISTURE			SW3550C		Analyst: ALG	
Moisture	12		0.10	% of sample	1	2/1/2022 03:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-56 (0-2') Comp
Collection Date: 1/31/2022 03:40 PM

Work Order: 22020034
Lab ID: 22020034-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/4/22 13:37		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/4/2022 02:17 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/4/22 13:45		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 02:48 PM
Barium	0.39		0.050	mg/L	1	2/8/2022 01:52 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 02:48 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 02:48 PM
Lead	ND		0.050	mg/L	1	2/7/2022 02:48 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 02:48 PM
Silver	ND		0.050	mg/L	1	2/7/2022 02:48 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/4/22 14:32		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/5/2022 02:07 AM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/5/2022 02:07 AM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/5/2022 02:07 AM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/5/2022 02:07 AM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/5/2022 02:07 AM
Hexachlorobenzene	ND		100	µg/L	1	2/5/2022 02:07 AM
Hexachloroethane	ND		100	µg/L	1	2/5/2022 02:07 AM
m-Cresol	ND		100	µg/L	1	2/5/2022 02:07 AM
Nitrobenzene	ND		100	µg/L	1	2/5/2022 02:07 AM
o-Cresol	ND		100	µg/L	1	2/5/2022 02:07 AM
p-Cresol	ND		100	µg/L	1	2/5/2022 02:07 AM
Pentachlorophenol	ND		100	µg/L	1	2/5/2022 02:07 AM
Pyridine	ND		200	µg/L	1	2/5/2022 02:07 AM
Surr: 2,4,6-Tribromophenol	74.9		27-83	%REC	1	2/5/2022 02:07 AM
Surr: 2-Fluorobiphenyl	72.3		26-79	%REC	1	2/5/2022 02:07 AM
Surr: 2-Fluorophenol	43.2		13-56	%REC	1	2/5/2022 02:07 AM
Surr: 4-Terphenyl-d14	68.5		43-106	%REC	1	2/5/2022 02:07 AM
Surr: Nitrobenzene-d5	64.1		29-80	%REC	1	2/5/2022 02:07 AM
Surr: Phenol-d6	28.9		10-35	%REC	1	2/5/2022 02:07 AM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/4/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 03:06 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 03:06 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 03:06 PM
Benzene	ND		50	µg/L	20	2/7/2022 03:06 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 03:06 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 03:06 PM
Chloroform	ND		20	µg/L	20	2/7/2022 03:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bus Terminal
Sample ID: SB-56 (0-2') Comp
Collection Date: 1/31/2022 03:40 PM

Work Order: 22020034
Lab ID: 22020034-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 03:06 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 03:06 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 03:06 PM
Surr: 1,2-Dichloroethane-d4	105		75-120	%REC	20	2/7/2022 03:06 PM
Surr: 4-Bromofluorobenzene	98.1		80-110	%REC	20	2/7/2022 03:06 PM
Surr: Dibromofluoromethane	106		85-115	%REC	20	2/7/2022 03:06 PM
Surr: Toluene-d8	104		85-110	%REC	20	2/7/2022 03:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191151 Instrument ID GC14 Method: SW8082

MBLK		Sample ID: PBLKS1-191151-191151				Units: µg/Kg		Analysis Date: 2/1/2022 11:54 PM		
Client ID:		Run ID: GC14_220201A				SeqNo: 8146867		Prep Date: 2/1/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	67								
Aroclor 1221	ND	67								
Aroclor 1232	ND	67								
Aroclor 1242	ND	67								
Aroclor 1248	ND	67								
Aroclor 1254	ND	67								
Aroclor 1260	ND	67								
PCBs, Total	ND	0								
Surr: Decachlorobiphenyl	35.62	0	33.3	0	107	60-138	0			
Surr: Tetrachloro-m-xylene	33.28	0	33.3	0	100	65-125	0			

LCS		Sample ID: PLCSS1-191151-191151				Units: µg/Kg		Analysis Date: 2/2/2022 12:06 AM		
Client ID:		Run ID: GC14_220201A				SeqNo: 8146868		Prep Date: 2/1/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	742.8	67	833	0	89.2	72-125	0			
Aroclor 1260	830.4	67	833	0	99.7	64-125	0			
Surr: Decachlorobiphenyl	35.42	0	33.3	0	106	60-138	0			
Surr: Tetrachloro-m-xylene	32.62	0	33.3	0	97.9	65-125	0			

MS		Sample ID: 22011863-02A MS				Units: µg/Kg		Analysis Date: 2/2/2022 12:19 AM		
Client ID:		Run ID: GC14_220201A				SeqNo: 8146869		Prep Date: 2/1/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	847.2	66	827.5	0	102	72-125	0			
Aroclor 1260	887.5	66	827.5	0	107	64-125	0			
Surr: Decachlorobiphenyl	33.1	0	33.08	0	100	60-138	0			
Surr: Tetrachloro-m-xylene	32.2	0	33.08	0	97.3	65-125	0			

MSD		Sample ID: 22011863-02A MSD				Units: µg/Kg		Analysis Date: 2/2/2022 12:32 AM		
Client ID:		Run ID: GC14_220201A				SeqNo: 8146870		Prep Date: 2/1/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	883.4	66	824.2	0	107	72-125	847.2	4.18	20	
Aroclor 1260	908.9	66	824.2	0	110	64-125	887.5	2.38	20	
Surr: Decachlorobiphenyl	33.58	0	32.95	0	102	60-138	33.1	1.44	20	
Surr: Tetrachloro-m-xylene	32.4	0	32.95	0	98.3	65-125	32.2	0.627	20	

The following samples were analyzed in this batch: 22020034-01A 22020034-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191151A Instrument ID GC14 Method: SW8082A

MBLK				Sample ID: PBLKS1-191151-191151A				Units: µg/Kg		Analysis Date: 2/1/2022 11:54 PM	
Client ID:		Run ID: GC14_220201A		SeqNo: 8146711		Prep Date: 2/1/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	ND	67									
Aroclor 1221	ND	67									
Aroclor 1232	ND	67									
Aroclor 1242	ND	67									
Aroclor 1248	ND	67									
Aroclor 1254	ND	67									
Aroclor 1260	ND	67									
Aroclor 1262	ND	67									
Aroclor 1268	ND	67									
PCBs, Total	ND	67									
<i>Surr: Decachlorobiphenyl</i>	35.62	0	33.3	0	107	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	33.28	0	33.3	0	100	65-125	0				

LCS				Sample ID: PLCSS1-191151-191151A				Units: µg/Kg		Analysis Date: 2/2/2022 12:06 AM	
Client ID:		Run ID: GC14_220201A		SeqNo: 8146712		Prep Date: 2/1/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	742.8	67	833	0	89.2	72-125	0				
Aroclor 1260	830.4	67	833	0	99.7	64-125	0				
<i>Surr: Decachlorobiphenyl</i>	35.42	0	33.3	0	106	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	32.62	0	33.3	0	97.9	65-125	0				

MS				Sample ID: 22011863-02A MS				Units: µg/Kg		Analysis Date: 2/2/2022 12:19 AM	
Client ID:		Run ID: GC14_220201A		SeqNo: 8146713		Prep Date: 2/1/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	847.2	66	827.5	0	102	72-125	0				
Aroclor 1260	887.5	66	827.5	0	107	64-125	0				
<i>Surr: Decachlorobiphenyl</i>	33.1	0	33.08	0	100	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	32.2	0	33.08	0	97.3	65-125	0				

MSD				Sample ID: 22011863-02A MSD				Units: µg/Kg		Analysis Date: 2/2/2022 12:32 AM	
Client ID:		Run ID: GC14_220201A		SeqNo: 8146714		Prep Date: 2/1/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	883.4	66	824.2	0	107	72-125	847.2	4.18	20		
Aroclor 1260	908.9	66	824.2	0	110	64-125	887.5	2.38	20		
<i>Surr: Decachlorobiphenyl</i>	33.58	0	32.95	0	102	60-138	33.1	1.44	20		
<i>Surr: Tetrachloro-m-xylene</i>	32.4	0	32.95	0	98.3	65-125	32.2	0.627	20		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020034
Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: **191151A** Instrument ID **GC14** Method: **SW8082A**

The following samples were analyzed in this batch:

22020034-01A	22020034-03A	22020034-05A
22020034-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191316 Instrument ID HG4 Method: SW7470A

MBLK		Sample ID: MBLK-191316-191316				Units: mg/L		Analysis Date: 2/4/2022 01:52 PM			
Client ID:		Run ID: HG4_220204A				SeqNo: 8153180		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury ND 0.00020

LCS		Sample ID: LCS-191316-191316				Units: mg/L		Analysis Date: 2/4/2022 01:54 PM			
Client ID:		Run ID: HG4_220204A				SeqNo: 8153181		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.002535 0.00020 0.002 0 127 80-120 0 S

MS		Sample ID: 22011920-02AMS				Units: mg/L		Analysis Date: 2/4/2022 01:59 PM			
Client ID:		Run ID: HG4_220204A				SeqNo: 8153184		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.0216 0.0020 0.02 -0.000195 109 75-125 0

MSD		Sample ID: 22011920-02AMSD				Units: mg/L		Analysis Date: 2/4/2022 02:01 PM			
Client ID:		Run ID: HG4_220204A				SeqNo: 8153185		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.0213 0.0020 0.02 -0.000195 107 75-125 0.0216 1.4 20

The following samples were analyzed in this batch:

22020034-02A	22020034-04A	22020034-06A
22020034-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191331 Instrument ID ICP2 Method: SW6010D

MBLK		Sample ID: MBLK-191331-191331				Units: mg/L		Analysis Date: 2/7/2022 01:44 PM		
Client ID:		Run ID: ICP2_220207A			SeqNo: 8157732		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.010								
Chromium	ND	0.0050								
Lead	ND	0.0050								
Selenium	ND	0.010								
Silver	ND	0.0050								

LCS		Sample ID: LCS-191331-191331				Units: mg/L		Analysis Date: 2/7/2022 01:49 PM		
Client ID:		Run ID: ICP2_220207A			SeqNo: 8157733		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09141	0.0050	0.1	0	91.4	80-120	0			
Cadmium	0.09746	0.010	0.1	0	97.5	80-120	0			
Chromium	0.09834	0.0050	0.1	0	98.3	80-120	0			
Lead	0.09724	0.0050	0.1	0	97.2	80-120	0			
Selenium	0.09482	0.010	0.1	0	94.8	80-120	0			
Silver	0.09405	0.0050	0.1	0	94	80-120	0			

LCS		Sample ID: LCS-191331-191331				Units: mg/L		Analysis Date: 2/8/2022 12:49 PM		
Client ID:		Run ID: ICP2_220208A			SeqNo: 8159720		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1032	0.0050	0.1	0	103	80-120	0			

MS		Sample ID: 22020034-02AMS				Units: mg/L		Analysis Date: 2/7/2022 02:14 PM		
Client ID: SB-43 (0-2') Comp		Run ID: ICP2_220207A			SeqNo: 8157738		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.9258	0.050	1	-0.00594	93.2	75-125	0			
Cadmium	0.9834	0.10	1	0.007986	97.5	75-125	0			
Chromium	0.9768	0.10	1	0.006853	97	75-125	0			
Lead	1.005	0.050	1	0.06501	94	75-125	0			
Selenium	0.9735	0.10	1	-0.008019	98.2	75-125	0			
Silver	0.9394	0.050	1	0	93.9	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191331 Instrument ID ICP2 Method: SW6010D

MS				Sample ID: 22020034-02AMS			Units: mg/L		Analysis Date: 2/8/2022 01:18 PM		
Client ID: SB-43 (0-2') Comp			Run ID: ICP2_220208A			SeqNo: 8159726		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Barium	1.68	0.050	1	0.6744	101	75-125		0		
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MSD				Sample ID: 22020034-02AMSD			Units: mg/L		Analysis Date: 2/7/2022 02:19 PM		
Client ID: SB-43 (0-2') Comp			Run ID: ICP2_220207A			SeqNo: 8157739		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Arsenic	0.9416	0.050	1	-0.00594	94.8	75-125	0.9258	1.69	20	
Cadmium	1.001	0.10	1	0.007986	99.3	75-125	0.9834	1.77	20	
Chromium	0.9889	0.10	1	0.006853	98.2	75-125	0.9768	1.23	20	
Lead	1.025	0.050	1	0.06501	96	75-125	1.005	1.95	20	
Selenium	0.9856	0.10	1	-0.008019	99.4	75-125	0.9735	1.24	20	
Silver	0.9548	0.050	1	0	95.5	75-125	0.9394	1.63	20	

MSD				Sample ID: 22020034-02AMSD			Units: mg/L		Analysis Date: 2/8/2022 01:23 PM		
Client ID: SB-43 (0-2') Comp			Run ID: ICP2_220208A			SeqNo: 8159727		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Barium	1.72	0.050	1	0.6744	105	75-125	1.68	2.35	20	
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The following samples were analyzed in this batch:

22020034-02A	22020034-04A	22020034-06A
22020034-08A		

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191303 Instrument ID SVMS10 Method: SW8270E

MBLK		Sample ID: SBLKW1-191303-191303				Units: µg/L		Analysis Date: 2/4/2022 09:36 PM		
Client ID:		Run ID: SVMS10_220204A			SeqNo: 8155412		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Hexachloro-1,3-butadiene	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachloroethane	ND	5.0								
m-Cresol	ND	5.0								
Nitrobenzene	ND	5.0								
o-Cresol	ND	5.0								
p-Cresol	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	38.45	0	50	0	76.9	27-83	0			
<i>Surr: 2-Fluorobiphenyl</i>	39.85	0	50	0	79.7	26-79	0			S
<i>Surr: 2-Fluorophenol</i>	26.18	0	50	0	52.4	13-56	0			
<i>Surr: 4-Terphenyl-d14</i>	38.71	0	50	0	77.4	43-106	0			
<i>Surr: Nitrobenzene-d5</i>	38.33	0	50	0	76.7	29-80	0			
<i>Surr: Phenol-d6</i>	17.33	0	50	0	34.7	10-35	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191303 Instrument ID SVMS10 Method: SW8270E

LCS		Sample ID: SLCSW1-191303-191303				Units: µg/L		Analysis Date: 2/4/2022 10:03 PM		
Client ID:		Run ID: SVMS10_220204A			SeqNo: 8155413		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	13.73	5.0	20	0	68.6	12-85	0			
2,4,5-Trichlorophenol	15.58	5.0	20	0	77.9	47-84	0			
2,4,6-Trichlorophenol	14.78	5.0	20	0	73.9	45-83	0			
2,4-Dinitrotoluene	15.67	5.0	20	0	78.4	54-93	0			
Hexachloro-1,3-butadiene	13.92	5.0	20	0	69.6	11-83	0			
Hexachlorobenzene	15.26	5.0	20	0	76.3	53-89	0			
Hexachloroethane	13.87	5.0	20	0	69.4	10-85	0			
m-Cresol	11.5	5.0	20	0	57.5	30-110	0			
Nitrobenzene	14.17	5.0	20	0	70.8	38-86	0			
o-Cresol	12.41	5.0	20	0	62	30-110	0			
p-Cresol	11.5	5.0	20	0	57.5	30-110	0			
Pentachlorophenol	14.31	5.0	20	0	71.6	37-94	0			
Pyridine	9.86	10	20	0	49.3	10-50	0			J
Surr: 2,4,6-Tribromophenol	40.3	0	50	0	80.6	27-83	0			
Surr: 2-Fluorobiphenyl	37.33	0	50	0	74.7	26-79	0			
Surr: 2-Fluorophenol	23.4	0	50	0	46.8	13-56	0			
Surr: 4-Terphenyl-d14	36.82	0	50	0	73.6	43-106	0			
Surr: Nitrobenzene-d5	34.63	0	50	0	69.3	29-80	0			
Surr: Phenol-d6	15.32	0	50	0	30.6	10-35	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191303 Instrument ID SVMS10 Method: SW8270E

MS		Sample ID: 22011920-02A MS				Units: µg/L		Analysis Date: 2/4/2022 10:30 PM		
Client ID:		Run ID: SVMS10_220204A			SeqNo: 8155414		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	271.4	100	400	0	67.8	12-85	0			
2,4,5-Trichlorophenol	313	100	400	0	78.2	47-84	0			
2,4,6-Trichlorophenol	307.2	100	400	0	76.8	45-83	0			
2,4-Dinitrotoluene	303.8	100	400	0	76	54-93	0			
Hexachloro-1,3-butadiene	378.8	100	400	0	94.7	11-83	0			S
Hexachlorobenzene	302.6	100	400	0	75.6	53-89	0			
Hexachloroethane	268.6	100	400	0	67.2	10-85	0			
m-Cresol	243.8	100	400	9.8	58.5	30-110	0			
Nitrobenzene	405.8	100	400	0	101	38-86	0			S
o-Cresol	ND	100	400	0	0	30-110	0			S
p-Cresol	243.8	100	400	9.8	58.5	30-110	0			
Pentachlorophenol	363.4	100	400	17.8	86.4	37-94	0			
Pyridine	206.6	200	400	0	51.6	10-50	0			S
Surr: 2,4,6-Tribromophenol	807.4	0	1000	0	80.7	27-83	0			
Surr: 2-Fluorobiphenyl	727.2	0	1000	0	72.7	26-79	0			
Surr: 2-Fluorophenol	474.2	0	1000	0	47.4	13-56	0			
Surr: 4-Terphenyl-d14	708	0	1000	0	70.8	43-106	0			
Surr: Nitrobenzene-d5	1051	0	1000	0	105	29-80	0			S
Surr: Phenol-d6	316.4	0	1000	0	31.6	10-35	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: 191303 Instrument ID SVMS10 Method: SW8270E

MSD		Sample ID: 22011920-02A MSD				Units: µg/L		Analysis Date: 2/4/2022 10:57 PM		
Client ID:		Run ID: SVMS10_220204A			SeqNo: 8155415		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	257	100	400	0	64.2	12-85	271.4	5.45	30	
2,4,5-Trichlorophenol	285	100	400	0	71.2	47-84	313	9.36	30	
2,4,6-Trichlorophenol	319.8	100	400	0	80	45-83	307.2	4.02	30	
2,4-Dinitrotoluene	326.8	100	400	0	81.7	54-93	303.8	7.29	30	
Hexachloro-1,3-butadiene	353.4	100	400	0	88.4	11-83	378.8	6.94	30	S
Hexachlorobenzene	300.6	100	400	0	75.2	53-89	302.6	0.663	30	
Hexachloroethane	279.8	100	400	0	70	10-85	268.6	4.08	30	
m-Cresol	257.2	100	400	9.8	61.8	30-110	243.8	5.35	30	
Nitrobenzene	392.8	100	400	0	98.2	38-86	405.8	3.26	30	S
o-Cresol	ND	100	400	0	0	30-110	0	0	30	S
p-Cresol	257.2	100	400	9.8	61.8	30-110	243.8	5.35	30	
Pentachlorophenol	393.4	100	400	17.8	93.9	37-94	363.4	7.93	30	
Pyridine	223.6	200	400	0	55.9	10-50	206.6	7.9	30	S
Surr: 2,4,6-Tribromophenol	845.8	0	1000	0	84.6	27-83	807.4	4.65	40	S
Surr: 2-Fluorobiphenyl	694	0	1000	0	69.4	26-79	727.2	4.67	40	
Surr: 2-Fluorophenol	441.6	0	1000	0	44.2	13-56	474.2	7.12	40	
Surr: 4-Terphenyl-d14	696.8	0	1000	0	69.7	43-106	708	1.59	40	
Surr: Nitrobenzene-d5	1029	0	1000	0	103	29-80	1051	2.1	40	S
Surr: Phenol-d6	311.4	0	1000	0	31.1	10-35	316.4	1.59	40	

The following samples were analyzed in this batch:

22020034-02A 22020034-04A 22020034-06A
 22020034-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: R337573c Instrument ID VMS9 Method: SW8260D

MBLK		Sample ID: 9V-BLKW2-220204-R337573c				Units: µg/L		Analysis Date: 2/4/2022 11:29 AM		
Client ID:		Run ID: VMS9_220204A			SeqNo: 8153138		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
2-Butanone	ND	5.0								
Benzene	ND	2.5								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroform	ND	1.0								
Tetrachloroethene	ND	1.0								
Trichloroethene	ND	1.0								
Vinyl chloride	ND	1.0								
Surr: 1,2-Dichloroethane-d4	20.8	0	20	0	104	75-120		0		
Surr: 4-Bromofluorobenzene	18.04	0	20	0	90.2	80-110		0		
Surr: Dibromofluoromethane	20.7	0	20	0	104	85-115		0		
Surr: Toluene-d8	21.18	0	20	0	106	85-110		0		

LCS		Sample ID: 9V-LCSW1-220204-R337573c				Units: µg/L		Analysis Date: 2/4/2022 10:42 AM		
Client ID:		Run ID: VMS9_220204A			SeqNo: 8153137		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	18.26	1.0	20	0	91.3	70-145		0		
1,2-Dichloroethane	19.45	1.0	20	0	97.2	78-125		0		
2-Butanone	20.54	5.0	20	0	103	55-150		0		
Benzene	18.82	2.5	20	0	94.1	70-130		0		
Carbon tetrachloride	22.13	1.0	20	0	111	65-140		0		
Chlorobenzene	19.71	1.0	20	0	98.6	80-120		0		
Chloroform	19.33	1.0	20	0	96.6	66-135		0		
Tetrachloroethene	22.13	1.0	20	0	111	68-166		0		
Trichloroethene	18.71	1.0	20	0	93.6	77-125		0		
Vinyl chloride	16.21	1.0	20	0	81	50-136		0		
Surr: 1,2-Dichloroethane-d4	19.44	0	20	0	97.2	75-120		0		
Surr: 4-Bromofluorobenzene	20.22	0	20	0	101	80-110		0		
Surr: Dibromofluoromethane	19.87	0	20	0	99.4	85-115		0		
Surr: Toluene-d8	20.33	0	20	0	102	85-110		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: R337573c Instrument ID VMS9 Method: SW8260D

MS				Sample ID: 22020220-09A MS			Units: µg/L		Analysis Date: 2/4/2022 06:08 PM		
Client ID:		Run ID: VMS9_220204A			SeqNo: 8154871		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	166.6	10	200	0	83.3	70-145	0				
1,2-Dichloroethane	179.5	10	200	0	89.8	78-125	0				
2-Butanone	162.4	50	200	0	81.2	55-150	0				
Benzene	1550	25	200	1479	35.3	70-130	0			SEO	
Carbon tetrachloride	207.7	10	200	36.4	85.6	65-140	0				
Chlorobenzene	177.4	10	200	0	88.7	80-120	0				
Chloroform	168	10	200	0	84	66-135	0				
Tetrachloroethene	206.3	10	200	0	103	68-166	0				
Trichloroethene	183.2	10	200	0	91.6	77-125	0				
Vinyl chloride	163	10	200	0	81.5	50-136	0				
<i>Surr: 1,2-Dichloroethane-d4</i>	191.9	0	200	0	96	75-120	0				
<i>Surr: 4-Bromofluorobenzene</i>	202.7	0	200	0	101	80-110	0				
<i>Surr: Dibromofluoromethane</i>	200.6	0	200	0	100	85-115	0				
<i>Surr: Toluene-d8</i>	205.5	0	200	0	103	85-110	0				

MSD				Sample ID: 22020220-09A MSD			Units: µg/L		Analysis Date: 2/4/2022 06:24 PM		
Client ID:		Run ID: VMS9_220204A			SeqNo: 8154872		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	165.7	10	200	0	82.8	70-145	166.6	0.542	30		
1,2-Dichloroethane	187.5	10	200	0	93.8	78-125	179.5	4.36	30		
2-Butanone	176.6	50	200	0	88.3	55-150	162.4	8.38	30		
Benzene	1586	25	200	1479	53.4	70-130	1550	2.3	30	SEO	
Carbon tetrachloride	190.6	10	200	36.4	77.1	65-140	207.7	8.59	30		
Chlorobenzene	185.5	10	200	0	92.8	80-120	177.4	4.46	30		
Chloroform	176.9	10	200	0	88.4	66-135	168	5.16	30		
Tetrachloroethene	207.4	10	200	0	104	68-166	206.3	0.532	30		
Trichloroethene	175.9	10	200	0	88	77-125	183.2	4.07	30		
Vinyl chloride	155.5	10	200	0	77.8	50-136	163	4.71	30		
<i>Surr: 1,2-Dichloroethane-d4</i>	205.6	0	200	0	103	75-120	191.9	6.89	30		
<i>Surr: 4-Bromofluorobenzene</i>	206.1	0	200	0	103	80-110	202.7	1.66	30		
<i>Surr: Dibromofluoromethane</i>	205.6	0	200	0	103	85-115	200.6	2.46	30		
<i>Surr: Toluene-d8</i>	211.5	0	200	0	106	85-110	205.5	2.88	30		

The following samples were analyzed in this batch:

22020034-02A	22020034-04A	22020034-06A
22020034-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: R337666a Instrument ID VMS8 Method: SW8260D

MBLK		Sample ID: 8V-BLKW1-220207-R337666a				Units: µg/L		Analysis Date: 2/7/2022 12:21 PM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157651		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
2-Butanone	ND	5.0								
Benzene	ND	2.5								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroform	ND	1.0								
Tetrachloroethene	ND	1.0								
Trichloroethene	ND	1.0								
Vinyl chloride	ND	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	20.09	0	20	0	100	75-120	0			
<i>Surr: 4-Bromofluorobenzene</i>	19.44	0	20	0	97.2	80-110	0			
<i>Surr: Dibromofluoromethane</i>	19.75	0	20	0	98.8	85-115	0			
<i>Surr: Toluene-d8</i>	20.74	0	20	0	104	85-110	0			

LCS		Sample ID: 8V-LCSW1-220207-R337666a				Units: µg/L		Analysis Date: 2/7/2022 11:26 AM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157649		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	22.79	1.0	20	0	114	70-145	0			
1,2-Dichloroethane	20.8	1.0	20	0	104	78-125	0			
2-Butanone	16.42	5.0	20	0	82.1	55-150	0			
Benzene	20.71	2.5	20	0	104	70-130	0			
Carbon tetrachloride	19.34	1.0	20	0	96.7	65-140	0			
Chlorobenzene	20.79	1.0	20	0	104	80-120	0			
Chloroform	19.02	1.0	20	0	95.1	66-135	0			
Tetrachloroethene	22.1	1.0	20	0	110	68-166	0			
Trichloroethene	19.71	1.0	20	0	98.6	77-125	0			
Vinyl chloride	18.11	1.0	20	0	90.6	50-136	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	19.56	0	20	0	97.8	75-120	0			
<i>Surr: 4-Bromofluorobenzene</i>	19.98	0	20	0	99.9	80-110	0			
<i>Surr: Dibromofluoromethane</i>	19.84	0	20	0	99.2	85-115	0			
<i>Surr: Toluene-d8</i>	20.23	0	20	0	101	85-110	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: R337666a Instrument ID VMS8 Method: SW8260D

MS				Sample ID: 22020089-02A MS			Units: µg/L		Analysis Date: 2/7/2022 07:58 PM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157675		Prep Date:		DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	404	20	400	0	101	70-145		0			
1,2-Dichloroethane	397.8	20	400	0	99.4	78-125		0			
2-Butanone	362.4	100	400	0	90.6	55-150		0			
Benzene	403	50	400	0	101	70-130		0			
Carbon tetrachloride	391.8	20	400	0	98	65-140		0			
Chlorobenzene	396	20	400	0	99	80-120		0			
Chloroform	375.8	20	400	0	94	66-135		0			
Tetrachloroethene	445.8	20	400	0	111	68-166		0			
Trichloroethene	384.4	20	400	0	96.1	77-125		0			
Vinyl chloride	326	20	400	0	81.5	50-136		0			
<i>Surr: 1,2-Dichloroethane-d4</i>	422.6	0	400	0	106	75-120		0			
<i>Surr: 4-Bromofluorobenzene</i>	397	0	400	0	99.2	80-110		0			
<i>Surr: Dibromofluoromethane</i>	398.8	0	400	0	99.7	85-115		0			
<i>Surr: Toluene-d8</i>	423.2	0	400	0	106	85-110		0			

MSD				Sample ID: 22020089-02A MSD			Units: µg/L		Analysis Date: 2/7/2022 08:16 PM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157676		Prep Date:		DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	442.8	20	400	0	111	70-145	404	9.16	30		
1,2-Dichloroethane	451.8	20	400	0	113	78-125	397.8	12.7	30		
2-Butanone	360.8	100	400	0	90.2	55-150	362.4	0.442	30		
Benzene	396.8	50	400	0	99.2	70-130	403	1.55	30		
Carbon tetrachloride	389	20	400	0	97.2	65-140	391.8	0.717	30		
Chlorobenzene	420.6	20	400	0	105	80-120	396	6.02	30		
Chloroform	393.4	20	400	0	98.4	66-135	375.8	4.58	30		
Tetrachloroethene	479.2	20	400	0	120	68-166	445.8	7.22	30		
Trichloroethene	386.6	20	400	0	96.6	77-125	384.4	0.571	30		
Vinyl chloride	365.2	20	400	0	91.3	50-136	326	11.3	30		
<i>Surr: 1,2-Dichloroethane-d4</i>	385.8	0	400	0	96.4	75-120	422.6	9.1	30		
<i>Surr: 4-Bromofluorobenzene</i>	387	0	400	0	96.8	80-110	397	2.55	30		
<i>Surr: Dibromofluoromethane</i>	387.8	0	400	0	97	85-115	398.8	2.8	30		
<i>Surr: Toluene-d8</i>	480.6	0	400	0	120	85-110	423.2	12.7	30	S	

The following samples were analyzed in this batch:

22020034-04A	22020034-06A	22020034-08A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020034
 Project: Coolidge Bus Terminal

QC BATCH REPORT

Batch ID: **R337405** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R337405				Units: % of sample		Analysis Date: 2/1/2022 03:08 PM		
Client ID:		Run ID: MOIST_220201B				SeqNo: 8145571		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R337405				Units: % of sample		Analysis Date: 2/1/2022 03:08 PM		
Client ID:		Run ID: MOIST_220201B				SeqNo: 8145570		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020034-01A DUP				Units: % of sample		Analysis Date: 2/1/2022 03:08 PM		
Client ID: SB-43 (0-2') Comp		Run ID: MOIST_220201B				SeqNo: 8145561		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.91	0.10	0	0	0	0-0	16.09	1.12	10	

DUP		Sample ID: 22020050-02A DUP				Units: % of sample		Analysis Date: 2/1/2022 03:08 PM		
Client ID:		Run ID: MOIST_220201B				SeqNo: 8145567		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.78	0.10	0	0	0	0-0	2.77	0.36	10	

The following samples were analyzed in this batch:

22020034-01A	22020034-03A	22020034-05A
22020034-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Page ____ of ____

COC ID: 055113

ALS Project Manager: _____ ALS Work Order #: 22020034

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Coolidge Bus Terminal	A	TCLP VOCs											
Work Order		Project Number	1942-6994-50	B	TCLP SVOCs											
Company Name	DLZ	Bill To Company		C	TCLP RCRA Metals											
Send Report To	Dan McNeely	Invoice Attn		D	PCBs											
Address	1425 Keystone Ave	Address		E												
City/State/Zip	Lansing MI 48911	City/State/Zip		F												
Phone	517-393-6800	Phone		G												
Fax		Fax		H												
e-Mail Address	dmcneely@dlz.com	e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SB-43(0-2') Comp	1-31-22	0920	Soil	8	2	X	X	X	X							
2	SB-48(0-2') Comp	↓	1215	↓	8	2	X	X	X	X							
3	SB-53(0-2') Comp	↓	1420	↓	8	2	X	X	X	X							
4	SB-56(0-2') Comp	↓	1540	↓	8	2	X	X	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign Dan McNeely		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:	
Relinquished by:	Date: 1-31-22	Time: 1700	Received by:	Notes:					
Relinquished by: QS	Date: 1/31/22	Time: 2330	Received by (Laboratory):	Cooler ID: IR1	Cooler Temp: 3.4°C	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date: 2/1/22	Time: 1023	Checked by (Laboratory):	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other _____					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 31-Jan-22 23:30

Work Order: 22020034

Received by: LYS

Checklist completed by Lydia Sweet 01-Feb-22
eSignature Date

Reviewed by: Julian Johnson 02-Feb-22
eSignature Date

Matrices: Soil
Carrier name: Courier

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []
Sample(s) received on ice? Yes [checked] No []

Temperature(s)/Thermometer(s): 3.4/3.4c IR1

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 2/1/2022 10:29:35 AM

Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]

Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]

pH adjusted? Yes [] No [] N/A [checked]

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



09-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Biowales**

Work Order: **22020092**

Dear Dan,

ALS Environmental received 19 samples on 01-Feb-2022 11:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 125.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
 Project: Coolidge Biowales
 Work Order: 22020092

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020092-01	SB-57 (3-4')	Soil		1/31/2022 15:50	2/1/2022 23:45	<input type="checkbox"/>
22020092-02	SB-58 (4-5')	Soil		1/31/2022 16:15	2/1/2022 23:45	<input type="checkbox"/>
22020092-03	SB-59 (4-5') + MS/MSD	Soil		2/1/2022 09:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-04	SB-60 (1-2')	Soil		2/1/2022 09:20	2/1/2022 23:45	<input type="checkbox"/>
22020092-05	SB-61 (4-5')	Soil		2/1/2022 09:40	2/1/2022 23:45	<input type="checkbox"/>
22020092-06	SB-62 (3-4')	Soil		2/1/2022 10:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-07	SB-63 (2-3')	Soil		2/1/2022 10:30	2/1/2022 23:45	<input type="checkbox"/>
22020092-08	SB-64 (1-2')	Soil		2/1/2022 10:50	2/1/2022 23:45	<input type="checkbox"/>
22020092-09	SB-65 (2-3')	Soil		2/1/2022 11:25	2/1/2022 23:45	<input type="checkbox"/>
22020092-10	SB-66 (1-2')	Soil		2/1/2022 11:45	2/1/2022 23:45	<input type="checkbox"/>
22020092-11	SB-67 (2-3')	Soil		2/1/2022 13:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-12	SB-68 (3-4')	Soil		2/1/2022 13:15	2/1/2022 23:45	<input type="checkbox"/>
22020092-13	SB-69 (2-3')	Soil		2/1/2022 13:30	2/1/2022 23:45	<input type="checkbox"/>
22020092-14	SB-70 (2-3')	Soil		2/1/2022 14:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-15	SB-71 (1-2')	Soil		2/1/2022 14:30	2/1/2022 23:45	<input type="checkbox"/>
22020092-16	SB-72 (4-5') + MS/MSD	Soil		2/1/2022 14:45	2/1/2022 23:45	<input type="checkbox"/>
22020092-17	SB-74 (0-1')	Soil		2/1/2022 16:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-18	DUP-02	Soil		2/1/2022 08:00	2/1/2022 23:45	<input type="checkbox"/>
22020092-19	DUP-03	Soil		2/1/2022 12:00	2/1/2022 23:45	<input type="checkbox"/>

Client: DLZ
Project: Coolidge Biowales
Work Order: 22020092

Case Narrative

Samples for the above noted Work Order were received on 2/1/2022. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Method VOC_8260_S, Sample 22020092-16A MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: 1,2,4-Trichlorobenzene

Method VOC_8260_S, Sample 22020092-03A MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: n-butylbenzene, sec-butybenzene

Method VOC_8260_S, Sample 22020092-03A MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: chloromethane, t-butanol

Method VOC_8260_S, Sample 22020092-03A MSD: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: chloromethane, t-butanol

Method VOC_8260_S, Sample 22020092-03A MSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: n-butylbenzene, sec-butybenzene

Client: DLZ
Project: Coolidge Biowales
Work Order: 22020092

Case Narrative

Extractable Organics:

Method SVO_8270_S, Sample 22020092-03B MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol

Method SVO_8270_S, Sample 22020092-03B MSD: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol

Method SVO_8270_S, Sample 22020092-03B MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: Hexachlorocyclopentadiene

Method SVO_8270_S, Sample 22020092-04B: One or more of the surrogates were below the limits due to matrix interference 2,4,6-Tribromophenol; 2-Fluorophenol

Method SVO_8270_S, Sample 22020092-04B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-04B: Surrogate high due to matrix interference. Nitrobenzene-d5

Method SVO_8270_S, Sample 22020092-06B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-07B: reduced due to sample being black/potential microwave danger

Method SVO_8270_S, Sample 22020092-07B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-08B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-09B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-11B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-14B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Client: DLZ
Project: Coolidge Biowales
Work Order: 22020092

Case Narrative

Method SVO_8270_S, Sample 22020092-16B MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: 2,4-Dinitrophenol; 4,6-Dinitro-2-methylphenol

Method SVO_8270_S, Sample 22020092-16B MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: 4,6-Dinitro-2-methylphenol

Method SVO_8270_S, Sample 22020092-16B MSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: 2,4-Dinitrophenol; 4,6-Dinitro-2-methylphenol

Method SVO_8270_S, Sample 22020092-17B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Method SVO_8270_S, Sample 22020092-19B: The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Metals:

Note: The acceptability of internal standard recoveries has been reviewed for each sample by the analyst. All recoveries were found to be within the method specified criteria of > 70%, unless otherwise noted in this report.

Method ICP_6020_S, Sample 22020092-16BMS: The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: K

Method ICP_6020_S, Sample 22020092-16BMSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: K

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg	Milligrams per Kilogram

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-57 (3-4')
 Collection Date: 1/31/2022 03:50 PM

Work Order: 22020092
 Lab ID: 22020092-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.085		0.014	mg/Kg	1	2/4/2022 03:17 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	8.2		0.36	mg/Kg	1	2/2/2022 11:04 PM
Barium	98		0.36	mg/Kg	1	2/2/2022 11:04 PM
Cadmium	0.23		0.14	mg/Kg	1	2/2/2022 11:04 PM
Chromium	6.4		0.36	mg/Kg	1	2/3/2022 03:11 PM
Copper	52		0.36	mg/Kg	1	2/2/2022 11:04 PM
Lead	51		0.36	mg/Kg	1	2/2/2022 11:04 PM
Selenium	0.58		0.36	mg/Kg	1	2/2/2022 11:04 PM
Silver	ND		0.36	mg/Kg	1	2/2/2022 11:04 PM
Zinc	110		0.72	mg/Kg	1	2/2/2022 11:04 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	940		240	µg/Kg	1	2/4/2022 07:42 PM
1,2,4,5-Tetrachlorobenzene	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
1,4-Dioxane	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
2,2'-Oxybis(1-chloropropane)	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,3,4,6-Tetrachlorophenol	ND		480	µg/Kg	1	2/4/2022 07:42 PM
2,4,5-Trichlorophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,4,6-Trichlorophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,4-Dichlorophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,4-Dimethylphenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,4-Dinitrophenol	ND		4,800	µg/Kg	1	2/4/2022 07:42 PM
2,4-Dinitrotoluene	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2,6-Dinitrotoluene	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2-Chloronaphthalene	ND		48	µg/Kg	1	2/4/2022 07:42 PM
2-Chlorophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2-Methylnaphthalene	6,700		48	µg/Kg	1	2/4/2022 07:42 PM
2-Methylphenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2-Nitroaniline	ND		240	µg/Kg	1	2/4/2022 07:42 PM
2-Nitrophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
3&4-Methylphenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
3,3'-Dichlorobenzidine	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
3-Nitroaniline	ND		240	µg/Kg	1	2/4/2022 07:42 PM
4,6-Dinitro-2-methylphenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
4-Bromophenyl phenyl ether	ND		240	µg/Kg	1	2/4/2022 07:42 PM
4-Chloro-3-methylphenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
4-Chloroaniline	ND		480	µg/Kg	1	2/4/2022 07:42 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-57 (3-4')
 Collection Date: 1/31/2022 03:50 PM

Work Order: 22020092
 Lab ID: 22020092-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		240	µg/Kg	1	2/4/2022 07:42 PM
4-Nitroaniline	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
4-Nitrophenol	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
Acenaphthene	ND		48	µg/Kg	1	2/4/2022 07:42 PM
Acenaphthylene	ND		48	µg/Kg	1	2/4/2022 07:42 PM
Acetophenone	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Anthracene	820		48	µg/Kg	1	2/4/2022 07:42 PM
Atrazine	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Benzaldehyde	ND		480	µg/Kg	1	2/4/2022 07:42 PM
Benzo(a)anthracene	2,600		48	µg/Kg	1	2/4/2022 07:42 PM
Benzo(a)pyrene	2,800		48	µg/Kg	1	2/4/2022 07:42 PM
Benzo(b)fluoranthene	3,900		48	µg/Kg	1	2/4/2022 07:42 PM
Benzo(g,h,i)perylene	2,500		48	µg/Kg	1	2/4/2022 07:42 PM
Benzo(k)fluoranthene	1,200		48	µg/Kg	1	2/4/2022 07:42 PM
Bis(2-chloroethoxy)methane	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Bis(2-chloroethyl)ether	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Bis(2-ethylhexyl)phthalate	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Butyl benzyl phthalate	ND		480	µg/Kg	1	2/4/2022 07:42 PM
Caprolactam	ND		480	µg/Kg	1	2/4/2022 07:42 PM
Carbazole	350		240	µg/Kg	1	2/4/2022 07:42 PM
Chrysene	2,900		48	µg/Kg	1	2/4/2022 07:42 PM
Dibenzo(a,h)anthracene	490		48	µg/Kg	1	2/4/2022 07:42 PM
Dibenzofuran	1,800		240	µg/Kg	1	2/4/2022 07:42 PM
Diethyl phthalate	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Dimethyl phthalate	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Di-n-butyl phthalate	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Di-n-octyl phthalate	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Fluoranthene	3,800		48	µg/Kg	1	2/4/2022 07:42 PM
Fluorene	ND		48	µg/Kg	1	2/4/2022 07:42 PM
Hexachlorobenzene	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Hexachlorobutadiene	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Hexachlorocyclopentadiene	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Hexachloroethane	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Indeno(1,2,3-cd)pyrene	2,600		48	µg/Kg	1	2/4/2022 07:42 PM
Isophorone	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
Naphthalene	3,500		48	µg/Kg	1	2/4/2022 07:42 PM
Nitrobenzene	ND		1,200	µg/Kg	1	2/4/2022 07:42 PM
N-Nitrosodi-n-propylamine	ND		240	µg/Kg	1	2/4/2022 07:42 PM
N-Nitrosodiphenylamine	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Pentachlorophenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-57 (3-4')
 Collection Date: 1/31/2022 03:50 PM

Work Order: 22020092
 Lab ID: 22020092-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	6,300		48	µg/Kg	1	2/4/2022 07:42 PM
Phenol	ND		240	µg/Kg	1	2/4/2022 07:42 PM
Pyrene	3,600		48	µg/Kg	1	2/4/2022 07:42 PM
Surr: 2,4,6-Tribromophenol	82.4		38-92	%REC	1	2/4/2022 07:42 PM
Surr: 2-Fluorobiphenyl	82.2		44-107	%REC	1	2/4/2022 07:42 PM
Surr: 2-Fluorophenol	74.4		37-109	%REC	1	2/4/2022 07:42 PM
Surr: 4-Terphenyl-d14	103		52-123	%REC	1	2/4/2022 07:42 PM
Surr: Nitrobenzene-d5	80.0		41-94	%REC	1	2/4/2022 07:42 PM
Surr: Phenol-d6	80.5		28-111	%REC	1	2/4/2022 07:42 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1,1-Trichloroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1,2,2-Tetrachloroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1,2-Trichloroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1,2-Trichlorotrifluoroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1-Dichloroethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,1-Dichloroethene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2,3-Trichloropropane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2,4-Trichlorobenzene	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2,4-Trimethylbenzene	120		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2-Dibromo-3-chloropropane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2-Dibromoethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2-Dichlorobenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2-Dichloroethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
1,2-Dichloropropane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,3,5-Trimethylbenzene	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
1,3-Dichlorobenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
1,4-Dichlorobenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
2-Butanone	ND		370	µg/Kg-dry	1	2/2/2022 03:57 PM
2-Hexanone	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
2-Methylnaphthalene	410		180	µg/Kg-dry	1	2/2/2022 03:57 PM
4-Methyl-2-pentanone	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Acetone	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
Acrylonitrile	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
Benzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Bromochloromethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Bromodichloromethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Bromoform	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Bromomethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-57 (3-4')
Collection Date: 1/31/2022 03:50 PM

Work Order: 22020092
Lab ID: 22020092-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Carbon tetrachloride	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Chlorobenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Chloroethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
Chloroform	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Chloromethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
cis-1,2-Dichloroethene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
cis-1,3-Dichloropropene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Dibromochloromethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Dibromomethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Dichlorodifluoromethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
Diethyl ether	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Ethylbenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Hexachloroethane	ND		180	µg/Kg-dry	1	2/2/2022 03:57 PM
Isopropylbenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
m,p-Xylene	130		110	µg/Kg-dry	1	2/2/2022 03:57 PM
Methyl iodide	ND		910	µg/Kg-dry	1	2/2/2022 03:57 PM
Methyl tert-butyl ether	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Methylene chloride	ND		460	µg/Kg-dry	1	2/2/2022 03:57 PM
Naphthalene	330		180	µg/Kg-dry	1	2/2/2022 03:57 PM
n-Propylbenzene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
o-Xylene	120		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Styrene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Tetrachloroethene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Toluene	69		55	µg/Kg-dry	1	2/2/2022 03:57 PM
trans-1,2-Dichloroethene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
trans-1,3-Dichloropropene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
trans-1,4-Dichloro-2-butene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Trichloroethene	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Trichlorofluoromethane	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Vinyl acetate	ND		460	µg/Kg-dry	1	2/2/2022 03:57 PM
Vinyl chloride	ND		55	µg/Kg-dry	1	2/2/2022 03:57 PM
Xylenes, Total	250		160	µg/Kg-dry	1	2/2/2022 03:57 PM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	2/2/2022 03:57 PM
Surr: 4-Bromofluorobenzene	99.5		70-130	%REC	1	2/2/2022 03:57 PM
Surr: Dibromofluoromethane	107		70-130	%REC	1	2/2/2022 03:57 PM
Surr: Toluene-d8	99.4		70-130	%REC	1	2/2/2022 03:57 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	15		0.10	% of sample	1	2/3/2022 12:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-58 (4-5')
 Collection Date: 1/31/2022 04:15 PM

Work Order: 22020092
 Lab ID: 22020092-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.023		0.013	mg/Kg	1	2/4/2022 03:28 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	3.4		0.38	mg/Kg	1	2/2/2022 11:06 PM
Barium	26		0.38	mg/Kg	1	2/2/2022 11:06 PM
Cadmium	0.15		0.15	mg/Kg	1	2/2/2022 11:06 PM
Chromium	5.5		0.38	mg/Kg	1	2/3/2022 03:12 PM
Copper	3.6		0.38	mg/Kg	1	2/2/2022 11:06 PM
Lead	4.5		0.38	mg/Kg	1	2/2/2022 11:06 PM
Selenium	ND		0.38	mg/Kg	1	2/2/2022 11:06 PM
Silver	ND		0.38	mg/Kg	1	2/2/2022 11:06 PM
Zinc	18		0.75	mg/Kg	1	2/2/2022 11:06 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	47		33	µg/Kg	1	2/4/2022 08:02 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/4/2022 08:02 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/4/2022 08:02 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/4/2022 08:02 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/4/2022 08:02 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/4/2022 08:02 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2-Methylnaphthalene	290		6.6	µg/Kg	1	2/4/2022 08:02 PM
2-Methylphenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 08:02 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/4/2022 08:02 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 08:02 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 08:02 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/4/2022 08:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-58 (4-5')
 Collection Date: 1/31/2022 04:15 PM

Work Order: 22020092
 Lab ID: 22020092-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 08:02 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/4/2022 08:02 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/4/2022 08:02 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/4/2022 08:02 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/4/2022 08:02 PM
Acetophenone	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Anthracene	25		6.6	µg/Kg	1	2/4/2022 08:02 PM
Atrazine	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Benzaldehyde	ND		67	µg/Kg	1	2/4/2022 08:02 PM
Benzo(a)anthracene	100		6.6	µg/Kg	1	2/4/2022 08:02 PM
Benzo(a)pyrene	99		6.6	µg/Kg	1	2/4/2022 08:02 PM
Benzo(b)fluoranthene	140		6.6	µg/Kg	1	2/4/2022 08:02 PM
Benzo(g,h,i)perylene	58		6.6	µg/Kg	1	2/4/2022 08:02 PM
Benzo(k)fluoranthene	42		6.6	µg/Kg	1	2/4/2022 08:02 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/4/2022 08:02 PM
Caprolactam	ND		67	µg/Kg	1	2/4/2022 08:02 PM
Carbazole	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Chrysene	100		6.6	µg/Kg	1	2/4/2022 08:02 PM
Dibenzo(a,h)anthracene	21		6.6	µg/Kg	1	2/4/2022 08:02 PM
Dibenzofuran	70		33	µg/Kg	1	2/4/2022 08:02 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Fluoranthene	150		6.6	µg/Kg	1	2/4/2022 08:02 PM
Fluorene	ND		6.6	µg/Kg	1	2/4/2022 08:02 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Hexachloroethane	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Indeno(1,2,3-cd)pyrene	67		6.6	µg/Kg	1	2/4/2022 08:02 PM
Isophorone	ND		170	µg/Kg	1	2/4/2022 08:02 PM
Naphthalene	150		6.6	µg/Kg	1	2/4/2022 08:02 PM
Nitrobenzene	ND		170	µg/Kg	1	2/4/2022 08:02 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/4/2022 08:02 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-58 (4-5')
 Collection Date: 1/31/2022 04:15 PM

Work Order: 22020092
 Lab ID: 22020092-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	250		6.6	µg/Kg	1	2/4/2022 08:02 PM
Phenol	ND		33	µg/Kg	1	2/4/2022 08:02 PM
Pyrene	130		6.6	µg/Kg	1	2/4/2022 08:02 PM
Surr: 2,4,6-Tribromophenol	83.1		38-92	%REC	1	2/4/2022 08:02 PM
Surr: 2-Fluorobiphenyl	76.6		44-107	%REC	1	2/4/2022 08:02 PM
Surr: 2-Fluorophenol	72.4		37-109	%REC	1	2/4/2022 08:02 PM
Surr: 4-Terphenyl-d14	88.0		52-123	%REC	1	2/4/2022 08:02 PM
Surr: Nitrobenzene-d5	76.1		41-94	%REC	1	2/4/2022 08:02 PM
Surr: Phenol-d6	78.1		28-111	%REC	1	2/4/2022 08:02 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: MF

1,1,1,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1,1-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1,2,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1,2-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1,2-Trichlorotrifluoroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1-Dichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,1-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2,3-Trichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2,4-Trimethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2-Dibromoethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
1,2-Dichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
1,3-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
1,4-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
2-Butanone	ND		250	µg/Kg-dry	1	2/2/2022 04:16 PM
2-Hexanone	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
4-Methyl-2-pentanone	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
Benzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Bromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Bromodichloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Bromoform	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-58 (4-5')
Collection Date: 1/31/2022 04:15 PM

Work Order: 22020092
Lab ID: 22020092-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Carbon tetrachloride	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Chlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
Chloroform	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
cis-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
cis-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Dibromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Dibromomethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
Diethyl ether	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
Isopropylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
m,p-Xylene	ND		74	µg/Kg-dry	1	2/2/2022 04:16 PM
Methyl iodide	ND		610	µg/Kg-dry	1	2/2/2022 04:16 PM
Methyl tert-butyl ether	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Methylene chloride	ND		310	µg/Kg-dry	1	2/2/2022 04:16 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:16 PM
n-Propylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
o-Xylene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Styrene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Tetrachloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Toluene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
trans-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
trans-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
trans-1,4-Dichloro-2-butene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Trichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Trichlorofluoromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Vinyl acetate	ND		310	µg/Kg-dry	1	2/2/2022 04:16 PM
Vinyl chloride	ND		37	µg/Kg-dry	1	2/2/2022 04:16 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 04:16 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	2/2/2022 04:16 PM
Surr: 4-Bromofluorobenzene	99.2		70-130	%REC	1	2/2/2022 04:16 PM
Surr: Dibromofluoromethane	100		70-130	%REC	1	2/2/2022 04:16 PM
Surr: Toluene-d8	97.3		70-130	%REC	1	2/2/2022 04:16 PM

MOISTURE

SW3550C

Analyst: **ALG**

Moisture 13 0.10 % of sample 1 2/3/2022 12:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-59 (4-5') + MS/MSD
 Collection Date: 2/1/2022 09:00 AM

Work Order: 22020092
 Lab ID: 22020092-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.023		0.014	mg/Kg	1	2/4/2022 03:19 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.0		0.41	mg/Kg	1	2/2/2022 11:08 PM
Barium	85		0.41	mg/Kg	1	2/2/2022 11:08 PM
Cadmium	ND		0.16	mg/Kg	1	2/2/2022 11:08 PM
Chromium	19		0.41	mg/Kg	1	2/3/2022 03:14 PM
Copper	6.9		0.41	mg/Kg	1	2/2/2022 11:08 PM
Lead	5.2		0.41	mg/Kg	1	2/2/2022 11:08 PM
Selenium	ND		0.41	mg/Kg	1	2/2/2022 11:08 PM
Silver	ND		0.41	mg/Kg	1	2/2/2022 11:08 PM
Zinc	31		0.82	mg/Kg	1	2/2/2022 11:08 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		32	µg/Kg	1	2/4/2022 06:00 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/4/2022 06:00 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/4/2022 06:00 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,3,4,6-Tetrachlorophenol	ND		65	µg/Kg	1	2/4/2022 06:00 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/4/2022 06:00 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2-Methylnaphthalene	51		6.5	µg/Kg	1	2/4/2022 06:00 PM
2-Methylphenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 06:00 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/4/2022 06:00 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 06:00 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 06:00 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
4-Chloroaniline	ND		65	µg/Kg	1	2/4/2022 06:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-59 (4-5') + MS/MSD
Collection Date: 2/1/2022 09:00 AM

Work Order: 22020092
Lab ID: 22020092-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 06:00 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/4/2022 06:00 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/4/2022 06:00 PM
Acenaphthene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Acetophenone	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Anthracene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Atrazine	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Benzaldehyde	ND		65	µg/Kg	1	2/4/2022 06:00 PM
Benzo(a)anthracene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Benzo(a)pyrene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Benzo(b)fluoranthene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Benzo(g,h,i)perylene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Benzo(k)fluoranthene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Butyl benzyl phthalate	ND		65	µg/Kg	1	2/4/2022 06:00 PM
Caprolactam	ND		65	µg/Kg	1	2/4/2022 06:00 PM
Carbazole	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Chrysene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Dibenzo(a,h)anthracene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Dibenzofuran	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Fluoranthene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Fluorene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Hexachloroethane	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Indeno(1,2,3-cd)pyrene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Isophorone	ND		160	µg/Kg	1	2/4/2022 06:00 PM
Naphthalene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Nitrobenzene	ND		160	µg/Kg	1	2/4/2022 06:00 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/4/2022 06:00 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-59 (4-5') + MS/MSD
 Collection Date: 2/1/2022 09:00 AM

Work Order: 22020092
 Lab ID: 22020092-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Phenol	ND		32	µg/Kg	1	2/4/2022 06:00 PM
Pyrene	ND		6.5	µg/Kg	1	2/4/2022 06:00 PM
Surr: 2,4,6-Tribromophenol	78.6		38-92	%REC	1	2/4/2022 06:00 PM
Surr: 2-Fluorobiphenyl	72.8		44-107	%REC	1	2/4/2022 06:00 PM
Surr: 2-Fluorophenol	75.6		37-109	%REC	1	2/4/2022 06:00 PM
Surr: 4-Terphenyl-d14	78.9		52-123	%REC	1	2/4/2022 06:00 PM
Surr: Nitrobenzene-d5	70.5		41-94	%REC	1	2/4/2022 06:00 PM
Surr: Phenol-d6	80.8		28-111	%REC	1	2/4/2022 06:00 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: MF

1,1,1,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1,2-Trichlorotrifluoroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,3-Trichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2,4-Trimethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dibromoethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
1,3-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
1,4-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Hexanone	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Benzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromodichloromethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromoform	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-59 (4-5') + MS/MSD
Collection Date: 2/1/2022 09:00 AM

Work Order: 22020092
Lab ID: 22020092-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Chlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloroform	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Dibromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Dibromomethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Diethyl ether	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
Isopropylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
m,p-Xylene	ND		70	µg/Kg-dry	1	2/2/2022 04:34 PM
Methyl iodide	ND		580	µg/Kg-dry	1	2/2/2022 04:34 PM
Methyl tert-butyl ether	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Methylene chloride	ND		290	µg/Kg-dry	1	2/2/2022 04:34 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 04:34 PM
n-Propylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
o-Xylene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Styrene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Tetrachloroethene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Toluene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Trichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Trichlorofluoromethane	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Vinyl acetate	ND		290	µg/Kg-dry	1	2/2/2022 04:34 PM
Vinyl chloride	ND		35	µg/Kg-dry	1	2/2/2022 04:34 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/2/2022 04:34 PM
Surr: 1,2-Dichloroethane-d4	95.7		70-130	%REC	1	2/2/2022 04:34 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	2/2/2022 04:34 PM
Surr: Dibromofluoromethane	98.8		70-130	%REC	1	2/2/2022 04:34 PM
Surr: Toluene-d8	97.5		70-130	%REC	1	2/2/2022 04:34 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **14** **0.10** **% of sample** **1** **2/3/2022 12:56 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-60 (1-2')
 Collection Date: 2/1/2022 09:20 AM

Work Order: 22020092
 Lab ID: 22020092-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.025		0.014	mg/Kg	1	2/4/2022 03:29 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	3.8		0.35	mg/Kg	1	2/2/2022 11:15 PM
Barium	31		0.35	mg/Kg	1	2/2/2022 11:15 PM
Cadmium	0.42		0.14	mg/Kg	1	2/2/2022 11:15 PM
Chromium	8.3		0.35	mg/Kg	1	2/3/2022 03:54 PM
Copper	8.9		0.35	mg/Kg	1	2/2/2022 11:15 PM
Lead	32		0.35	mg/Kg	1	2/2/2022 11:15 PM
Selenium	ND		0.35	mg/Kg	1	2/2/2022 11:15 PM
Silver	ND		0.35	mg/Kg	1	2/2/2022 11:15 PM
Zinc	24		0.69	mg/Kg	1	2/2/2022 11:15 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		160	µg/Kg	5	2/4/2022 10:45 PM
1,2,4,5-Tetrachlorobenzene	ND		820	µg/Kg	5	2/4/2022 10:45 PM
1,4-Dioxane	ND		820	µg/Kg	5	2/4/2022 10:45 PM
2,2'-Oxybis(1-chloropropane)	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,3,4,6-Tetrachlorophenol	ND		330	µg/Kg	5	2/4/2022 10:45 PM
2,4,5-Trichlorophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,4,6-Trichlorophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,4-Dichlorophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,4-Dimethylphenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,4-Dinitrophenol	ND		3,300	µg/Kg	5	2/4/2022 10:45 PM
2,4-Dinitrotoluene	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2,6-Dinitrotoluene	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2-Chloronaphthalene	ND		33	µg/Kg	5	2/4/2022 10:45 PM
2-Chlorophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2-Methylnaphthalene	870		33	µg/Kg	5	2/4/2022 10:45 PM
2-Methylphenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2-Nitroaniline	ND		160	µg/Kg	5	2/4/2022 10:45 PM
2-Nitrophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
3&4-Methylphenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
3,3'-Dichlorobenzidine	ND		820	µg/Kg	5	2/4/2022 10:45 PM
3-Nitroaniline	ND		160	µg/Kg	5	2/4/2022 10:45 PM
4,6-Dinitro-2-methylphenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
4-Bromophenyl phenyl ether	ND		160	µg/Kg	5	2/4/2022 10:45 PM
4-Chloro-3-methylphenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
4-Chloroaniline	ND		330	µg/Kg	5	2/4/2022 10:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-60 (1-2')
 Collection Date: 2/1/2022 09:20 AM

Work Order: 22020092
 Lab ID: 22020092-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		160	µg/Kg	5	2/4/2022 10:45 PM
4-Nitroaniline	ND		820	µg/Kg	5	2/4/2022 10:45 PM
4-Nitrophenol	ND		820	µg/Kg	5	2/4/2022 10:45 PM
Acenaphthene	ND		33	µg/Kg	5	2/4/2022 10:45 PM
Acenaphthylene	ND		33	µg/Kg	5	2/4/2022 10:45 PM
Acetophenone	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Anthracene	89		33	µg/Kg	5	2/4/2022 10:45 PM
Atrazine	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Benzaldehyde	ND		330	µg/Kg	5	2/4/2022 10:45 PM
Benzo(a)anthracene	310		33	µg/Kg	5	2/4/2022 10:45 PM
Benzo(a)pyrene	460		33	µg/Kg	5	2/4/2022 10:45 PM
Benzo(b)fluoranthene	570		33	µg/Kg	5	2/4/2022 10:45 PM
Benzo(g,h,i)perylene	400		33	µg/Kg	5	2/4/2022 10:45 PM
Benzo(k)fluoranthene	210		33	µg/Kg	5	2/4/2022 10:45 PM
Bis(2-chloroethoxy)methane	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Bis(2-chloroethyl)ether	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Bis(2-ethylhexyl)phthalate	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Butyl benzyl phthalate	ND		330	µg/Kg	5	2/4/2022 10:45 PM
Caprolactam	ND		330	µg/Kg	5	2/4/2022 10:45 PM
Carbazole	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Chrysene	270		33	µg/Kg	5	2/4/2022 10:45 PM
Dibenzo(a,h)anthracene	100		33	µg/Kg	5	2/4/2022 10:45 PM
Dibenzofuran	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Diethyl phthalate	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Dimethyl phthalate	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Di-n-butyl phthalate	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Di-n-octyl phthalate	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Fluoranthene	480		33	µg/Kg	5	2/4/2022 10:45 PM
Fluorene	ND		33	µg/Kg	5	2/4/2022 10:45 PM
Hexachlorobenzene	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Hexachlorobutadiene	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Hexachlorocyclopentadiene	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Hexachloroethane	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Indeno(1,2,3-cd)pyrene	490		33	µg/Kg	5	2/4/2022 10:45 PM
Isophorone	ND		820	µg/Kg	5	2/4/2022 10:45 PM
Naphthalene	ND		33	µg/Kg	5	2/4/2022 10:45 PM
Nitrobenzene	ND		820	µg/Kg	5	2/4/2022 10:45 PM
N-Nitrosodi-n-propylamine	ND		160	µg/Kg	5	2/4/2022 10:45 PM
N-Nitrosodiphenylamine	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Pentachlorophenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-60 (1-2')
 Collection Date: 2/1/2022 09:20 AM

Work Order: 22020092
 Lab ID: 22020092-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	200		33	µg/Kg	5	2/4/2022 10:45 PM
Phenol	ND		160	µg/Kg	5	2/4/2022 10:45 PM
Pyrene	540		33	µg/Kg	5	2/4/2022 10:45 PM
Surr: 2,4,6-Tribromophenol	8.80	S	38-92	%REC	5	2/4/2022 10:45 PM
Surr: 2-Fluorobiphenyl	77.9		44-107	%REC	5	2/4/2022 10:45 PM
Surr: 2-Fluorophenol	30.0	S	37-109	%REC	5	2/4/2022 10:45 PM
Surr: 4-Terphenyl-d14	84.4		52-123	%REC	5	2/4/2022 10:45 PM
Surr: Nitrobenzene-d5	116	S	41-94	%REC	5	2/4/2022 10:45 PM
Surr: Phenol-d6	66.1		28-111	%REC	5	2/4/2022 10:45 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/2/22 12:03	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1,1-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1,2,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1,2-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1,2-Trichlorotrifluoroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1-Dichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,1-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2,3-Trichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2,4-Trimethylbenzene	62		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2-Dibromoethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
1,2-Dichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
1,3-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
1,4-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
2-Butanone	ND		250	µg/Kg-dry	1	2/2/2022 04:52 PM
2-Hexanone	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
2-Methylnaphthalene	5,700		120	µg/Kg-dry	1	2/2/2022 04:52 PM
4-Methyl-2-pentanone	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
Benzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Bromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Bromodichloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Bromoform	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-60 (1-2')
Collection Date: 2/1/2022 09:20 AM

Work Order: 22020092
Lab ID: 22020092-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Carbon tetrachloride	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Chlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
Chloroform	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
cis-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
cis-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Dibromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Dibromomethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
Diethyl ether	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 04:52 PM
Isopropylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	2/2/2022 04:52 PM
Methyl iodide	ND		620	µg/Kg-dry	1	2/2/2022 04:52 PM
Methyl tert-butyl ether	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Methylene chloride	ND		310	µg/Kg-dry	1	2/2/2022 04:52 PM
Naphthalene	750		120	µg/Kg-dry	1	2/2/2022 04:52 PM
n-Propylbenzene	81		37	µg/Kg-dry	1	2/2/2022 04:52 PM
o-Xylene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Styrene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Tetrachloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Toluene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
trans-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
trans-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
trans-1,4-Dichloro-2-butene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Trichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Trichlorofluoromethane	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Vinyl acetate	ND		310	µg/Kg-dry	1	2/2/2022 04:52 PM
Vinyl chloride	ND		37	µg/Kg-dry	1	2/2/2022 04:52 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 04:52 PM
Surr: 1,2-Dichloroethane-d4	110		70-130	%REC	1	2/2/2022 04:52 PM
Surr: 4-Bromofluorobenzene	78.9		70-130	%REC	1	2/2/2022 04:52 PM
Surr: Dibromofluoromethane	97.6		70-130	%REC	1	2/2/2022 04:52 PM
Surr: Toluene-d8	99.8		70-130	%REC	1	2/2/2022 04:52 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/3/2022 12:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-61 (4-5')
 Collection Date: 2/1/2022 09:40 AM

Work Order: 22020092
 Lab ID: 22020092-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 03:31 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	10		0.33	mg/Kg	1	2/2/2022 11:18 PM
Barium	49		0.33	mg/Kg	1	2/2/2022 11:18 PM
Cadmium	ND		0.13	mg/Kg	1	2/2/2022 11:18 PM
Chromium	14		0.33	mg/Kg	1	2/3/2022 03:56 PM
Copper	11		0.33	mg/Kg	1	2/2/2022 11:18 PM
Lead	7.6		0.33	mg/Kg	1	2/2/2022 11:18 PM
Selenium	ND		0.33	mg/Kg	1	2/2/2022 11:18 PM
Silver	ND		0.33	mg/Kg	1	2/2/2022 11:18 PM
Zinc	29		0.65	mg/Kg	1	2/2/2022 11:18 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		33	µg/Kg	1	2/4/2022 08:23 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/4/2022 08:23 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/4/2022 08:23 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/4/2022 08:23 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/4/2022 08:23 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/4/2022 08:23 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2-Methylnaphthalene	8.0		6.6	µg/Kg	1	2/4/2022 08:23 PM
2-Methylphenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 08:23 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/4/2022 08:23 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/4/2022 08:23 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 08:23 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/4/2022 08:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-61 (4-5')
 Collection Date: 2/1/2022 09:40 AM

Work Order: 22020092
 Lab ID: 22020092-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/4/2022 08:23 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/4/2022 08:23 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/4/2022 08:23 PM
Acenaphthene	27		6.6	µg/Kg	1	2/4/2022 08:23 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/4/2022 08:23 PM
Acetophenone	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Anthracene	90		6.6	µg/Kg	1	2/4/2022 08:23 PM
Atrazine	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Benzaldehyde	ND		67	µg/Kg	1	2/4/2022 08:23 PM
Benzo(a)anthracene	170		6.6	µg/Kg	1	2/4/2022 08:23 PM
Benzo(a)pyrene	160		6.6	µg/Kg	1	2/4/2022 08:23 PM
Benzo(b)fluoranthene	200		6.6	µg/Kg	1	2/4/2022 08:23 PM
Benzo(g,h,i)perylene	94		6.6	µg/Kg	1	2/4/2022 08:23 PM
Benzo(k)fluoranthene	76		6.6	µg/Kg	1	2/4/2022 08:23 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/4/2022 08:23 PM
Caprolactam	ND		67	µg/Kg	1	2/4/2022 08:23 PM
Carbazole	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Chrysene	140		6.6	µg/Kg	1	2/4/2022 08:23 PM
Dibenzo(a,h)anthracene	25		6.6	µg/Kg	1	2/4/2022 08:23 PM
Dibenzofuran	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Fluoranthene	410		6.6	µg/Kg	1	2/4/2022 08:23 PM
Fluorene	44		6.6	µg/Kg	1	2/4/2022 08:23 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Hexachloroethane	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Indeno(1,2,3-cd)pyrene	120		6.6	µg/Kg	1	2/4/2022 08:23 PM
Isophorone	ND		170	µg/Kg	1	2/4/2022 08:23 PM
Naphthalene	9.3		6.6	µg/Kg	1	2/4/2022 08:23 PM
Nitrobenzene	ND		170	µg/Kg	1	2/4/2022 08:23 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/4/2022 08:23 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-61 (4-5')
 Collection Date: 2/1/2022 09:40 AM

Work Order: 22020092
 Lab ID: 22020092-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	280		6.6	µg/Kg	1	2/4/2022 08:23 PM
Phenol	ND		33	µg/Kg	1	2/4/2022 08:23 PM
Pyrene	290		6.6	µg/Kg	1	2/4/2022 08:23 PM
Surr: 2,4,6-Tribromophenol	80.7		38-92	%REC	1	2/4/2022 08:23 PM
Surr: 2-Fluorobiphenyl	73.0		44-107	%REC	1	2/4/2022 08:23 PM
Surr: 2-Fluorophenol	76.9		37-109	%REC	1	2/4/2022 08:23 PM
Surr: 4-Terphenyl-d14	80.8		52-123	%REC	1	2/4/2022 08:23 PM
Surr: Nitrobenzene-d5	74.5		41-94	%REC	1	2/4/2022 08:23 PM
Surr: Phenol-d6	78.2		28-111	%REC	1	2/4/2022 08:23 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1,1-Trichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1,2,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1,2-Trichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1,2-Trichlorotrifluoroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1-Dichloroethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,1-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2,3-Trichloropropane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2,4-Trimethylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2-Dibromoethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
1,2-Dichloropropane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
1,3-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
1,4-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
2-Butanone	ND		220	µg/Kg-dry	1	2/2/2022 05:10 PM
2-Hexanone	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
2-Methylnaphthalene	280		110	µg/Kg-dry	1	2/2/2022 05:10 PM
4-Methyl-2-pentanone	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Acetone	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
Benzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Bromochloromethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Bromodichloromethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Bromoform	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-61 (4-5')
Collection Date: 2/1/2022 09:40 AM

Work Order: 22020092
Lab ID: 22020092-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Carbon tetrachloride	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Chlorobenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
Chloroform	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
cis-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
cis-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Dibromochloromethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Dibromomethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
Diethyl ether	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
Isopropylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	2/2/2022 05:10 PM
Methyl iodide	ND		560	µg/Kg-dry	1	2/2/2022 05:10 PM
Methyl tert-butyl ether	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Methylene chloride	ND		280	µg/Kg-dry	1	2/2/2022 05:10 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/2/2022 05:10 PM
n-Propylbenzene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
o-Xylene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Styrene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Tetrachloroethene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Toluene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
trans-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
trans-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
trans-1,4-Dichloro-2-butene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Trichloroethene	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Trichlorofluoromethane	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Vinyl acetate	ND		280	µg/Kg-dry	1	2/2/2022 05:10 PM
Vinyl chloride	ND		34	µg/Kg-dry	1	2/2/2022 05:10 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/2/2022 05:10 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	2/2/2022 05:10 PM
Surr: 4-Bromofluorobenzene	98.1		70-130	%REC	1	2/2/2022 05:10 PM
Surr: Dibromofluoromethane	98.1		70-130	%REC	1	2/2/2022 05:10 PM
Surr: Toluene-d8	100		70-130	%REC	1	2/2/2022 05:10 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **14** **0.10** **% of sample** **1** **2/3/2022 12:56 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-62 (3-4')
 Collection Date: 2/1/2022 10:00 AM

Work Order: 22020092
 Lab ID: 22020092-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.018		0.014	mg/Kg	1	2/4/2022 03:33 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.3		0.34	mg/Kg	1	2/2/2022 11:20 PM
Barium	19		0.34	mg/Kg	1	2/2/2022 11:20 PM
Cadmium	ND		0.14	mg/Kg	1	2/2/2022 11:20 PM
Chromium	5.9		0.34	mg/Kg	1	2/3/2022 03:57 PM
Copper	5.2		0.34	mg/Kg	1	2/2/2022 11:20 PM
Lead	7.5		0.34	mg/Kg	1	2/2/2022 11:20 PM
Selenium	ND		0.34	mg/Kg	1	2/2/2022 11:20 PM
Silver	ND		0.34	mg/Kg	1	2/2/2022 11:20 PM
Zinc	20		0.68	mg/Kg	1	2/2/2022 11:20 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		320	µg/Kg	10	2/4/2022 11:05 PM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,3,4,6-Tetrachlorophenol	ND		650	µg/Kg	10	2/4/2022 11:05 PM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,4-Dinitrophenol	ND		6,500	µg/Kg	10	2/4/2022 11:05 PM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2-Chloronaphthalene	ND		65	µg/Kg	10	2/4/2022 11:05 PM
2-Chlorophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2-Methylnaphthalene	410		65	µg/Kg	10	2/4/2022 11:05 PM
2-Methylphenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2-Nitroaniline	ND		320	µg/Kg	10	2/4/2022 11:05 PM
2-Nitrophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
3&4-Methylphenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
3-Nitroaniline	ND		320	µg/Kg	10	2/4/2022 11:05 PM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/4/2022 11:05 PM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
4-Chloroaniline	ND		650	µg/Kg	10	2/4/2022 11:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-62 (3-4')
 Collection Date: 2/1/2022 10:00 AM

Work Order: 22020092
 Lab ID: 22020092-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/4/2022 11:05 PM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
Acenaphthene	2,100		65	µg/Kg	10	2/4/2022 11:05 PM
Acenaphthylene	120		65	µg/Kg	10	2/4/2022 11:05 PM
Acetophenone	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Anthracene	4,000		65	µg/Kg	10	2/4/2022 11:05 PM
Atrazine	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Benzaldehyde	ND		650	µg/Kg	10	2/4/2022 11:05 PM
Benzo(a)anthracene	5,500		65	µg/Kg	10	2/4/2022 11:05 PM
Benzo(a)pyrene	5,100		65	µg/Kg	10	2/4/2022 11:05 PM
Benzo(b)fluoranthene	6,500		65	µg/Kg	10	2/4/2022 11:05 PM
Benzo(g,h,i)perylene	2,600		65	µg/Kg	10	2/4/2022 11:05 PM
Benzo(k)fluoranthene	2,400		65	µg/Kg	10	2/4/2022 11:05 PM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Bis(2-ethylhexyl)phthalate	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Butyl benzyl phthalate	ND		650	µg/Kg	10	2/4/2022 11:05 PM
Caprolactam	ND		650	µg/Kg	10	2/4/2022 11:05 PM
Carbazole	1,200		320	µg/Kg	10	2/4/2022 11:05 PM
Chrysene	4,600		65	µg/Kg	10	2/4/2022 11:05 PM
Dibenzo(a,h)anthracene	620		65	µg/Kg	10	2/4/2022 11:05 PM
Dibenzofuran	1,500		320	µg/Kg	10	2/4/2022 11:05 PM
Diethyl phthalate	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Dimethyl phthalate	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Fluoranthene	14,000		65	µg/Kg	10	2/4/2022 11:05 PM
Fluorene	2,700		65	µg/Kg	10	2/4/2022 11:05 PM
Hexachlorobenzene	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Hexachloroethane	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Indeno(1,2,3-cd)pyrene	3,500		65	µg/Kg	10	2/4/2022 11:05 PM
Isophorone	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
Naphthalene	1,500		65	µg/Kg	10	2/4/2022 11:05 PM
Nitrobenzene	ND		1,600	µg/Kg	10	2/4/2022 11:05 PM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/4/2022 11:05 PM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Pentachlorophenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-62 (3-4')
 Collection Date: 2/1/2022 10:00 AM

Work Order: 22020092
 Lab ID: 22020092-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	12,000		65	µg/Kg	10	2/4/2022 11:05 PM
Phenol	ND		320	µg/Kg	10	2/4/2022 11:05 PM
Pyrene	10,000		65	µg/Kg	10	2/4/2022 11:05 PM
Surr: 2,4,6-Tribromophenol	79.8		38-92	%REC	10	2/4/2022 11:05 PM
Surr: 2-Fluorobiphenyl	73.2		44-107	%REC	10	2/4/2022 11:05 PM
Surr: 2-Fluorophenol	63.4		37-109	%REC	10	2/4/2022 11:05 PM
Surr: 4-Terphenyl-d14	83.0		52-123	%REC	10	2/4/2022 11:05 PM
Surr: Nitrobenzene-d5	76.0		41-94	%REC	10	2/4/2022 11:05 PM
Surr: Phenol-d6	76.4		28-111	%REC	10	2/4/2022 11:05 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1,2-Trichlorotrifluoroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2,3-Trichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2,4-Trimethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2-Dibromoethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
1,3-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
1,4-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/2/2022 05:29 PM
2-Hexanone	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
2-Methylnaphthalene	2,200		120	µg/Kg-dry	1	2/2/2022 05:29 PM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
Benzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Bromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Bromodichloromethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Bromoform	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-62 (3-4')
Collection Date: 2/1/2022 10:00 AM

Work Order: 22020092
Lab ID: 22020092-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Chlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
Chloroform	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Dibromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Dibromomethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
Diethyl ether	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 05:29 PM
Isopropylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
m,p-Xylene	ND		69	µg/Kg-dry	1	2/2/2022 05:29 PM
Methyl iodide	ND		580	µg/Kg-dry	1	2/2/2022 05:29 PM
Methyl tert-butyl ether	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Methylene chloride	ND		290	µg/Kg-dry	1	2/2/2022 05:29 PM
Naphthalene	3,500		120	µg/Kg-dry	1	2/2/2022 05:29 PM
n-Propylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
o-Xylene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Styrene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Tetrachloroethene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Toluene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Trichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Trichlorofluoromethane	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Vinyl acetate	ND		290	µg/Kg-dry	1	2/2/2022 05:29 PM
Vinyl chloride	ND		35	µg/Kg-dry	1	2/2/2022 05:29 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/2/2022 05:29 PM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	1	2/2/2022 05:29 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	2/2/2022 05:29 PM
Surr: Dibromofluoromethane	104		70-130	%REC	1	2/2/2022 05:29 PM
Surr: Toluene-d8	99.8		70-130	%REC	1	2/2/2022 05:29 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	13		0.10	% of sample	1	2/3/2022 12:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-63 (2-3')
 Collection Date: 2/1/2022 10:30 AM

Work Order: 22020092
 Lab ID: 22020092-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.040		0.014	mg/Kg	1	2/4/2022 03:40 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	9.5		0.40	mg/Kg	1	2/2/2022 11:23 PM
Barium	120		0.40	mg/Kg	1	2/2/2022 11:23 PM
Cadmium	0.51		0.16	mg/Kg	1	2/2/2022 11:23 PM
Chromium	13		0.40	mg/Kg	1	2/3/2022 03:59 PM
Copper	45		0.40	mg/Kg	1	2/2/2022 11:23 PM
Lead	130		0.40	mg/Kg	1	2/2/2022 11:23 PM
Selenium	ND		0.40	mg/Kg	1	2/2/2022 11:23 PM
Silver	ND		0.40	mg/Kg	1	2/2/2022 11:23 PM
Zinc	92		0.79	mg/Kg	1	2/2/2022 11:23 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
1,2,4,5-Tetrachlorobenzene	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
1,4-Dioxane	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
2,2'-Oxybis(1-chloropropane)	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,3,4,6-Tetrachlorophenol	ND		4,900	µg/Kg	10	2/4/2022 11:26 PM
2,4,5-Trichlorophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,4,6-Trichlorophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,4-Dichlorophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,4-Dimethylphenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,4-Dinitrophenol	ND		49,000	µg/Kg	10	2/4/2022 11:26 PM
2,4-Dinitrotoluene	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2,6-Dinitrotoluene	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2-Chloronaphthalene	ND		490	µg/Kg	10	2/4/2022 11:26 PM
2-Chlorophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2-Methylnaphthalene	2,600		490	µg/Kg	10	2/4/2022 11:26 PM
2-Methylphenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2-Nitroaniline	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
2-Nitrophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
3&4-Methylphenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
3,3'-Dichlorobenzidine	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
3-Nitroaniline	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
4,6-Dinitro-2-methylphenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
4-Bromophenyl phenyl ether	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
4-Chloro-3-methylphenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
4-Chloroaniline	ND		4,900	µg/Kg	10	2/4/2022 11:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-63 (2-3')
 Collection Date: 2/1/2022 10:30 AM

Work Order: 22020092
 Lab ID: 22020092-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
4-Nitroaniline	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
4-Nitrophenol	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
Acenaphthene	6,000		490	µg/Kg	10	2/4/2022 11:26 PM
Acenaphthylene	780		490	µg/Kg	10	2/4/2022 11:26 PM
Acetophenone	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Anthracene	21,000		490	µg/Kg	10	2/4/2022 11:26 PM
Atrazine	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Benzaldehyde	ND		4,900	µg/Kg	10	2/4/2022 11:26 PM
Benzo(a)anthracene	43,000		490	µg/Kg	10	2/4/2022 11:26 PM
Benzo(a)pyrene	40,000		490	µg/Kg	10	2/4/2022 11:26 PM
Benzo(b)fluoranthene	52,000		490	µg/Kg	10	2/4/2022 11:26 PM
Benzo(g,h,i)perylene	17,000		490	µg/Kg	10	2/4/2022 11:26 PM
Benzo(k)fluoranthene	17,000		490	µg/Kg	10	2/4/2022 11:26 PM
Bis(2-chloroethoxy)methane	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Bis(2-chloroethyl)ether	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Bis(2-ethylhexyl)phthalate	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Butyl benzyl phthalate	ND		4,900	µg/Kg	10	2/4/2022 11:26 PM
Caprolactam	ND		4,900	µg/Kg	10	2/4/2022 11:26 PM
Carbazole	6,500		2,400	µg/Kg	10	2/4/2022 11:26 PM
Chrysene	36,000		490	µg/Kg	10	2/4/2022 11:26 PM
Dibenzo(a,h)anthracene	4,400		490	µg/Kg	10	2/4/2022 11:26 PM
Dibenzofuran	5,100		2,400	µg/Kg	10	2/4/2022 11:26 PM
Diethyl phthalate	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Dimethyl phthalate	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Di-n-butyl phthalate	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Di-n-octyl phthalate	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Fluoranthene	100,000		490	µg/Kg	10	2/4/2022 11:26 PM
Fluorene	8,100		490	µg/Kg	10	2/4/2022 11:26 PM
Hexachlorobenzene	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Hexachlorobutadiene	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Hexachlorocyclopentadiene	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Hexachloroethane	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Indeno(1,2,3-cd)pyrene	24,000		490	µg/Kg	10	2/4/2022 11:26 PM
Isophorone	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
Naphthalene	2,400		490	µg/Kg	10	2/4/2022 11:26 PM
Nitrobenzene	ND		12,000	µg/Kg	10	2/4/2022 11:26 PM
N-Nitrosodi-n-propylamine	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
N-Nitrosodiphenylamine	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Pentachlorophenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-63 (2-3')
 Collection Date: 2/1/2022 10:30 AM

Work Order: 22020092
 Lab ID: 22020092-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	70,000		490	µg/Kg	10	2/4/2022 11:26 PM
Phenol	ND		2,400	µg/Kg	10	2/4/2022 11:26 PM
Pyrene	72,000		490	µg/Kg	10	2/4/2022 11:26 PM
Surr: 2,4,6-Tribromophenol	84.8		38-92	%REC	10	2/4/2022 11:26 PM
Surr: 2-Fluorobiphenyl	70.6		44-107	%REC	10	2/4/2022 11:26 PM
Surr: 2-Fluorophenol	70.6		37-109	%REC	10	2/4/2022 11:26 PM
Surr: 4-Terphenyl-d14	77.4		52-123	%REC	10	2/4/2022 11:26 PM
Surr: Nitrobenzene-d5	76.2		41-94	%REC	10	2/4/2022 11:26 PM
Surr: Phenol-d6	83.2		28-111	%REC	10	2/4/2022 11:26 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1,1-Trichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1,2,2-Tetrachloroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1,2-Trichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1,2-Trichlorotrifluoroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1-Dichloroethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,1-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2,3-Trichloropropane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2,4-Trichlorobenzene	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2,4-Trimethylbenzene	60		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2-Dibromo-3-chloropropane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2-Dibromoethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2-Dichloroethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
1,2-Dichloropropane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,3,5-Trimethylbenzene	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
1,3-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
1,4-Dichlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
2-Butanone	ND		310	µg/Kg-dry	1	2/2/2022 05:47 PM
2-Hexanone	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
2-Methylnaphthalene	5,500		150	µg/Kg-dry	1	2/2/2022 05:47 PM
4-Methyl-2-pentanone	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Acetone	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
Acrylonitrile	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
Benzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Bromochloromethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Bromodichloromethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Bromoform	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Bromomethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-63 (2-3')
Collection Date: 2/1/2022 10:30 AM

Work Order: 22020092
Lab ID: 22020092-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Carbon tetrachloride	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Chlorobenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Chloroethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
Chloroform	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Chloromethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
cis-1,2-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
cis-1,3-Dichloropropene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Dibromochloromethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Dibromomethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Dichlorodifluoromethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
Diethyl ether	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Ethylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Hexachloroethane	ND		150	µg/Kg-dry	1	2/2/2022 05:47 PM
Isopropylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
m,p-Xylene	ND		92	µg/Kg-dry	1	2/2/2022 05:47 PM
Methyl iodide	ND		770	µg/Kg-dry	1	2/2/2022 05:47 PM
Methyl tert-butyl ether	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Methylene chloride	ND		390	µg/Kg-dry	1	2/2/2022 05:47 PM
Naphthalene	4,700		150	µg/Kg-dry	1	2/2/2022 05:47 PM
n-Propylbenzene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
o-Xylene	61		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Styrene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Tetrachloroethene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Toluene	52		46	µg/Kg-dry	1	2/2/2022 05:47 PM
trans-1,2-Dichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
trans-1,3-Dichloropropene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
trans-1,4-Dichloro-2-butene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Trichloroethene	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Trichlorofluoromethane	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Vinyl acetate	ND		390	µg/Kg-dry	1	2/2/2022 05:47 PM
Vinyl chloride	ND		46	µg/Kg-dry	1	2/2/2022 05:47 PM
Xylenes, Total	ND		140	µg/Kg-dry	1	2/2/2022 05:47 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	2/2/2022 05:47 PM
Surr: 4-Bromofluorobenzene	107		70-130	%REC	1	2/2/2022 05:47 PM
Surr: Dibromofluoromethane	95.4		70-130	%REC	1	2/2/2022 05:47 PM
Surr: Toluene-d8	101		70-130	%REC	1	2/2/2022 05:47 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	21		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-64 (1-2')
 Collection Date: 2/1/2022 10:50 AM

Work Order: 22020092
 Lab ID: 22020092-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.041		0.013	mg/Kg	1	2/4/2022 03:42 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.0		0.38	mg/Kg	1	2/2/2022 11:25 PM
Barium	260		3.8	mg/Kg	10	2/3/2022 03:31 PM
Cadmium	2.9		0.15	mg/Kg	1	2/2/2022 11:25 PM
Chromium	24		3.8	mg/Kg	10	2/3/2022 03:31 PM
Copper	19		0.38	mg/Kg	1	2/2/2022 11:25 PM
Lead	44		0.38	mg/Kg	1	2/2/2022 11:25 PM
Selenium	1.7		0.38	mg/Kg	1	2/2/2022 11:25 PM
Silver	ND		0.38	mg/Kg	1	2/2/2022 11:25 PM
Zinc	48		0.75	mg/Kg	1	2/2/2022 11:25 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		330	µg/Kg	10	2/4/2022 11:46 PM
1,2,4,5-Tetrachlorobenzene	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
1,4-Dioxane	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
2,2'-Oxybis(1-chloropropane)	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,3,4,6-Tetrachlorophenol	ND		660	µg/Kg	10	2/4/2022 11:46 PM
2,4,5-Trichlorophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,4,6-Trichlorophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,4-Dichlorophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,4-Dimethylphenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,4-Dinitrophenol	ND		6,600	µg/Kg	10	2/4/2022 11:46 PM
2,4-Dinitrotoluene	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2,6-Dinitrotoluene	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2-Chloronaphthalene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
2-Chlorophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2-Methylnaphthalene	450		66	µg/Kg	10	2/4/2022 11:46 PM
2-Methylphenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2-Nitroaniline	ND		330	µg/Kg	10	2/4/2022 11:46 PM
2-Nitrophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
3&4-Methylphenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
3,3'-Dichlorobenzidine	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
3-Nitroaniline	ND		330	µg/Kg	10	2/4/2022 11:46 PM
4,6-Dinitro-2-methylphenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
4-Bromophenyl phenyl ether	ND		330	µg/Kg	10	2/4/2022 11:46 PM
4-Chloro-3-methylphenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
4-Chloroaniline	ND		660	µg/Kg	10	2/4/2022 11:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-64 (1-2')
 Collection Date: 2/1/2022 10:50 AM

Work Order: 22020092
 Lab ID: 22020092-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		330	µg/Kg	10	2/4/2022 11:46 PM
4-Nitroaniline	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
4-Nitrophenol	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
Acenaphthene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
Acenaphthylene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
Acetophenone	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Anthracene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
Atrazine	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Benzaldehyde	ND		660	µg/Kg	10	2/4/2022 11:46 PM
Benzo(a)anthracene	220		66	µg/Kg	10	2/4/2022 11:46 PM
Benzo(a)pyrene	260		66	µg/Kg	10	2/4/2022 11:46 PM
Benzo(b)fluoranthene	340		66	µg/Kg	10	2/4/2022 11:46 PM
Benzo(g,h,i)perylene	180		66	µg/Kg	10	2/4/2022 11:46 PM
Benzo(k)fluoranthene	130		66	µg/Kg	10	2/4/2022 11:46 PM
Bis(2-chloroethoxy)methane	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Bis(2-chloroethyl)ether	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Bis(2-ethylhexyl)phthalate	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Butyl benzyl phthalate	ND		660	µg/Kg	10	2/4/2022 11:46 PM
Caprolactam	ND		660	µg/Kg	10	2/4/2022 11:46 PM
Carbazole	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Chrysene	160		66	µg/Kg	10	2/4/2022 11:46 PM
Dibenzo(a,h)anthracene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
Dibenzofuran	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Diethyl phthalate	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Dimethyl phthalate	1,200		330	µg/Kg	10	2/4/2022 11:46 PM
Di-n-butyl phthalate	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Di-n-octyl phthalate	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Fluoranthene	360		66	µg/Kg	10	2/4/2022 11:46 PM
Fluorene	ND		66	µg/Kg	10	2/4/2022 11:46 PM
Hexachlorobenzene	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Hexachlorobutadiene	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Hexachlorocyclopentadiene	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Hexachloroethane	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Indeno(1,2,3-cd)pyrene	240		66	µg/Kg	10	2/4/2022 11:46 PM
Isophorone	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
Naphthalene	400		66	µg/Kg	10	2/4/2022 11:46 PM
Nitrobenzene	ND		1,700	µg/Kg	10	2/4/2022 11:46 PM
N-Nitrosodi-n-propylamine	ND		330	µg/Kg	10	2/4/2022 11:46 PM
N-Nitrosodiphenylamine	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Pentachlorophenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-64 (1-2')
 Collection Date: 2/1/2022 10:50 AM

Work Order: 22020092
 Lab ID: 22020092-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	300		66	µg/Kg	10	2/4/2022 11:46 PM
Phenol	ND		330	µg/Kg	10	2/4/2022 11:46 PM
Pyrene	320		66	µg/Kg	10	2/4/2022 11:46 PM
Surr: 2,4,6-Tribromophenol	64.2		38-92	%REC	10	2/4/2022 11:46 PM
Surr: 2-Fluorobiphenyl	66.2		44-107	%REC	10	2/4/2022 11:46 PM
Surr: 2-Fluorophenol	57.6		37-109	%REC	10	2/4/2022 11:46 PM
Surr: 4-Terphenyl-d14	80.4		52-123	%REC	10	2/4/2022 11:46 PM
Surr: Nitrobenzene-d5	68.4		41-94	%REC	10	2/4/2022 11:46 PM
Surr: Phenol-d6	68.6		28-111	%REC	10	2/4/2022 11:46 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 12:03

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1,1-Trichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1,2,2-Tetrachloroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1,2-Trichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1,2-Trichlorotrifluoroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1-Dichloroethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,1-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2,3-Trichloropropane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2,4-Trichlorobenzene	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2,4-Trimethylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2-Dibromo-3-chloropropane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2-Dibromoethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2-Dichloroethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
1,2-Dichloropropane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,3,5-Trimethylbenzene	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
1,3-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
1,4-Dichlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
2-Butanone	ND		340	µg/Kg-dry	1	2/2/2022 06:05 PM
2-Hexanone	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
2-Methylnaphthalene	480		170	µg/Kg-dry	1	2/2/2022 06:05 PM
4-Methyl-2-pentanone	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Acetone	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
Acrylonitrile	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
Benzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Bromochloromethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Bromodichloromethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Bromoform	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Bromomethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-64 (1-2')
Collection Date: 2/1/2022 10:50 AM

Work Order: 22020092
Lab ID: 22020092-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Carbon tetrachloride	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Chlorobenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Chloroethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
Chloroform	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Chloromethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
cis-1,2-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
cis-1,3-Dichloropropene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Dibromochloromethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Dibromomethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Dichlorodifluoromethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
Diethyl ether	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Ethylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Hexachloroethane	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
Isopropylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
m,p-Xylene	ND		100	µg/Kg-dry	1	2/2/2022 06:05 PM
Methyl iodide	ND		850	µg/Kg-dry	1	2/2/2022 06:05 PM
Methyl tert-butyl ether	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Methylene chloride	ND		420	µg/Kg-dry	1	2/2/2022 06:05 PM
Naphthalene	ND		170	µg/Kg-dry	1	2/2/2022 06:05 PM
n-Propylbenzene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
o-Xylene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Styrene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Tetrachloroethene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Toluene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
trans-1,2-Dichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
trans-1,3-Dichloropropene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
trans-1,4-Dichloro-2-butene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Trichloroethene	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Trichlorofluoromethane	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Vinyl acetate	ND		420	µg/Kg-dry	1	2/2/2022 06:05 PM
Vinyl chloride	ND		51	µg/Kg-dry	1	2/2/2022 06:05 PM
Xylenes, Total	ND		150	µg/Kg-dry	1	2/2/2022 06:05 PM
Surr: 1,2-Dichloroethane-d4	93.4		70-130	%REC	1	2/2/2022 06:05 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	2/2/2022 06:05 PM
Surr: Dibromofluoromethane	94.5		70-130	%REC	1	2/2/2022 06:05 PM
Surr: Toluene-d8	97.7		70-130	%REC	1	2/2/2022 06:05 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **20** **0.10** **% of sample** **1** **2/3/2022 02:00 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-65 (2-3')
 Collection Date: 2/1/2022 11:25 AM

Work Order: 22020092
 Lab ID: 22020092-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.016		0.014	mg/Kg	1	2/4/2022 03:44 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	3.6		0.38	mg/Kg	1	2/3/2022 12:13 AM
Barium	40		0.38	mg/Kg	1	2/3/2022 12:13 AM
Cadmium	0.42		0.15	mg/Kg	1	2/3/2022 12:13 AM
Chromium	14		0.38	mg/Kg	1	2/3/2022 12:13 AM
Copper	24		0.38	mg/Kg	1	2/3/2022 12:13 AM
Lead	130		0.38	mg/Kg	1	2/3/2022 12:13 AM
Selenium	ND		0.38	mg/Kg	1	2/3/2022 12:13 AM
Silver	ND		0.38	mg/Kg	1	2/3/2022 12:13 AM
Zinc	71		0.75	mg/Kg	1	2/3/2022 12:13 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		320	µg/Kg	10	2/5/2022 12:06 AM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,3,4,6-Tetrachlorophenol	ND		640	µg/Kg	10	2/5/2022 12:06 AM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,4-Dinitrophenol	ND		6,400	µg/Kg	10	2/5/2022 12:06 AM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2-Chloronaphthalene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
2-Chlorophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2-Methylnaphthalene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
2-Methylphenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2-Nitroaniline	ND		320	µg/Kg	10	2/5/2022 12:06 AM
2-Nitrophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
3&4-Methylphenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
3-Nitroaniline	ND		320	µg/Kg	10	2/5/2022 12:06 AM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/5/2022 12:06 AM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
4-Chloroaniline	ND		640	µg/Kg	10	2/5/2022 12:06 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-65 (2-3')
 Collection Date: 2/1/2022 11:25 AM

Work Order: 22020092
 Lab ID: 22020092-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/5/2022 12:06 AM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
Acenaphthene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Acenaphthylene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Acetophenone	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Anthracene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Atrazine	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Benzaldehyde	ND		640	µg/Kg	10	2/5/2022 12:06 AM
Benzo(a)anthracene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Benzo(a)pyrene	170		64	µg/Kg	10	2/5/2022 12:06 AM
Benzo(b)fluoranthene	180		64	µg/Kg	10	2/5/2022 12:06 AM
Benzo(g,h,i)perylene	170		64	µg/Kg	10	2/5/2022 12:06 AM
Benzo(k)fluoranthene	83		64	µg/Kg	10	2/5/2022 12:06 AM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Bis(2-ethylhexyl)phthalate	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Butyl benzyl phthalate	ND		640	µg/Kg	10	2/5/2022 12:06 AM
Caprolactam	ND		640	µg/Kg	10	2/5/2022 12:06 AM
Carbazole	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Chrysene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Dibenzo(a,h)anthracene	70		64	µg/Kg	10	2/5/2022 12:06 AM
Dibenzofuran	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Diethyl phthalate	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Dimethyl phthalate	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Fluoranthene	220		64	µg/Kg	10	2/5/2022 12:06 AM
Fluorene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Hexachlorobenzene	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Hexachloroethane	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Indeno(1,2,3-cd)pyrene	200		64	µg/Kg	10	2/5/2022 12:06 AM
Isophorone	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
Naphthalene	ND		64	µg/Kg	10	2/5/2022 12:06 AM
Nitrobenzene	ND		1,600	µg/Kg	10	2/5/2022 12:06 AM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/5/2022 12:06 AM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Pentachlorophenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-65 (2-3')
 Collection Date: 2/1/2022 11:25 AM

Work Order: 22020092
 Lab ID: 22020092-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	110		64	µg/Kg	10	2/5/2022 12:06 AM
Phenol	ND		320	µg/Kg	10	2/5/2022 12:06 AM
Pyrene	190		64	µg/Kg	10	2/5/2022 12:06 AM
Surr: 2,4,6-Tribromophenol	87.4		38-92	%REC	10	2/5/2022 12:06 AM
Surr: 2-Fluorobiphenyl	73.0		44-107	%REC	10	2/5/2022 12:06 AM
Surr: 2-Fluorophenol	70.8		37-109	%REC	10	2/5/2022 12:06 AM
Surr: 4-Terphenyl-d14	84.2		52-123	%REC	10	2/5/2022 12:06 AM
Surr: Nitrobenzene-d5	75.4		41-94	%REC	10	2/5/2022 12:06 AM
Surr: Phenol-d6	79.2		28-111	%REC	10	2/5/2022 12:06 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1,1-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1,2,2-Tetrachloroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1,2-Trichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1,2-Trichlorotrifluoroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1-Dichloroethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,1-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2,3-Trichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2,4-Trimethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2-Dibromoethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
1,2-Dichloropropane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
1,3-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
1,4-Dichlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
2-Butanone	ND		210	µg/Kg-dry	1	2/2/2022 06:23 PM
2-Hexanone	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
4-Methyl-2-pentanone	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Acetone	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
Benzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Bromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Bromodichloromethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Bromoform	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-65 (2-3')
Collection Date: 2/1/2022 11:25 AM

Work Order: 22020092
Lab ID: 22020092-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Carbon tetrachloride	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Chlorobenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
Chloroform	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
cis-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
cis-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Dibromochloromethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Dibromomethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
Diethyl ether	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
Isopropylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
m,p-Xylene	ND		64	µg/Kg-dry	1	2/2/2022 06:23 PM
Methyl iodide	ND		540	µg/Kg-dry	1	2/2/2022 06:23 PM
Methyl tert-butyl ether	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Methylene chloride	ND		270	µg/Kg-dry	1	2/2/2022 06:23 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/2/2022 06:23 PM
n-Propylbenzene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
o-Xylene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Styrene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Tetrachloroethene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Toluene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
trans-1,2-Dichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
trans-1,3-Dichloropropene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
trans-1,4-Dichloro-2-butene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Trichloroethene	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Trichlorofluoromethane	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Vinyl acetate	ND		270	µg/Kg-dry	1	2/2/2022 06:23 PM
Vinyl chloride	ND		32	µg/Kg-dry	1	2/2/2022 06:23 PM
Xylenes, Total	ND		96	µg/Kg-dry	1	2/2/2022 06:23 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	2/2/2022 06:23 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	2/2/2022 06:23 PM
Surr: Dibromofluoromethane	97.0		70-130	%REC	1	2/2/2022 06:23 PM
Surr: Toluene-d8	100		70-130	%REC	1	2/2/2022 06:23 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	5.2		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-66 (1-2')
 Collection Date: 2/1/2022 11:45 AM

Work Order: 22020092
 Lab ID: 22020092-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 03:45 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	1.3		0.37	mg/Kg	1	2/3/2022 12:16 AM
Barium	9.3		0.37	mg/Kg	1	2/3/2022 12:16 AM
Cadmium	ND		0.15	mg/Kg	1	2/3/2022 12:16 AM
Chromium	3.9		0.37	mg/Kg	1	2/3/2022 12:16 AM
Copper	5.6		0.37	mg/Kg	1	2/3/2022 12:16 AM
Lead	15		0.37	mg/Kg	1	2/3/2022 12:16 AM
Selenium	ND		0.37	mg/Kg	1	2/3/2022 12:16 AM
Silver	ND		0.37	mg/Kg	1	2/3/2022 12:16 AM
Zinc	9.2		0.75	mg/Kg	1	2/3/2022 12:16 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		32	µg/Kg	1	2/4/2022 08:43 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/4/2022 08:43 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/4/2022 08:43 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,3,4,6-Tetrachlorophenol	ND		65	µg/Kg	1	2/4/2022 08:43 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/4/2022 08:43 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2-Methylnaphthalene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
2-Methylphenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 08:43 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/4/2022 08:43 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 08:43 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 08:43 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
4-Chloroaniline	ND		65	µg/Kg	1	2/4/2022 08:43 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-66 (1-2')
 Collection Date: 2/1/2022 11:45 AM

Work Order: 22020092
 Lab ID: 22020092-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 08:43 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/4/2022 08:43 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/4/2022 08:43 PM
Acenaphthene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Acetophenone	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Anthracene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Atrazine	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Benzaldehyde	ND		65	µg/Kg	1	2/4/2022 08:43 PM
Benzo(a)anthracene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Benzo(a)pyrene	19		6.5	µg/Kg	1	2/4/2022 08:43 PM
Benzo(b)fluoranthene	21		6.5	µg/Kg	1	2/4/2022 08:43 PM
Benzo(g,h,i)perylene	15		6.5	µg/Kg	1	2/4/2022 08:43 PM
Benzo(k)fluoranthene	11		6.5	µg/Kg	1	2/4/2022 08:43 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Butyl benzyl phthalate	ND		65	µg/Kg	1	2/4/2022 08:43 PM
Caprolactam	ND		65	µg/Kg	1	2/4/2022 08:43 PM
Carbazole	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Chrysene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Dibenzo(a,h)anthracene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Dibenzofuran	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Fluoranthene	21		6.5	µg/Kg	1	2/4/2022 08:43 PM
Fluorene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Hexachloroethane	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Indeno(1,2,3-cd)pyrene	20		6.5	µg/Kg	1	2/4/2022 08:43 PM
Isophorone	ND		160	µg/Kg	1	2/4/2022 08:43 PM
Naphthalene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Nitrobenzene	ND		160	µg/Kg	1	2/4/2022 08:43 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/4/2022 08:43 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-66 (1-2')
 Collection Date: 2/1/2022 11:45 AM

Work Order: 22020092
 Lab ID: 22020092-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.5	µg/Kg	1	2/4/2022 08:43 PM
Phenol	ND		32	µg/Kg	1	2/4/2022 08:43 PM
Pyrene	15		6.5	µg/Kg	1	2/4/2022 08:43 PM
Surr: 2,4,6-Tribromophenol	76.3		38-92	%REC	1	2/4/2022 08:43 PM
Surr: 2-Fluorobiphenyl	72.8		44-107	%REC	1	2/4/2022 08:43 PM
Surr: 2-Fluorophenol	67.0		37-109	%REC	1	2/4/2022 08:43 PM
Surr: 4-Terphenyl-d14	83.0		52-123	%REC	1	2/4/2022 08:43 PM
Surr: Nitrobenzene-d5	72.5		41-94	%REC	1	2/4/2022 08:43 PM
Surr: Phenol-d6	76.4		28-111	%REC	1	2/4/2022 08:43 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1,1-Trichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1,2,2-Tetrachloroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1,2-Trichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1,2-Trichlorotrifluoroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1-Dichloroethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,1-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2,3-Trichloropropane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2,4-Trichlorobenzene	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2,4-Trimethylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2-Dibromo-3-chloropropane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2-Dibromoethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2-Dichloroethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
1,2-Dichloropropane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,3,5-Trimethylbenzene	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
1,3-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
1,4-Dichlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
2-Butanone	ND		260	µg/Kg-dry	1	2/2/2022 06:41 PM
2-Hexanone	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
2-Methylnaphthalene	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
4-Methyl-2-pentanone	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Acetone	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
Acrylonitrile	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
Benzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Bromochloromethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Bromodichloromethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Bromoform	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Bromomethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-66 (1-2')
Collection Date: 2/1/2022 11:45 AM

Work Order: 22020092
Lab ID: 22020092-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Carbon tetrachloride	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Chlorobenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Chloroethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
Chloroform	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Chloromethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
cis-1,2-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
cis-1,3-Dichloropropene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Dibromochloromethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Dibromomethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Dichlorodifluoromethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
Diethyl ether	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Ethylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Hexachloroethane	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
Isopropylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
m,p-Xylene	ND		77	µg/Kg-dry	1	2/2/2022 06:41 PM
Methyl iodide	ND		640	µg/Kg-dry	1	2/2/2022 06:41 PM
Methyl tert-butyl ether	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Methylene chloride	ND		320	µg/Kg-dry	1	2/2/2022 06:41 PM
Naphthalene	ND		130	µg/Kg-dry	1	2/2/2022 06:41 PM
n-Propylbenzene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
o-Xylene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Styrene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Tetrachloroethene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Toluene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
trans-1,2-Dichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
trans-1,3-Dichloropropene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
trans-1,4-Dichloro-2-butene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Trichloroethene	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Trichlorofluoromethane	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Vinyl acetate	ND		320	µg/Kg-dry	1	2/2/2022 06:41 PM
Vinyl chloride	ND		39	µg/Kg-dry	1	2/2/2022 06:41 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	2/2/2022 06:41 PM
Surr: 1,2-Dichloroethane-d4	110		70-130	%REC	1	2/2/2022 06:41 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	2/2/2022 06:41 PM
Surr: Dibromofluoromethane	103		70-130	%REC	1	2/2/2022 06:41 PM
Surr: Toluene-d8	96.3		70-130	%REC	1	2/2/2022 06:41 PM

MOISTURE

SW3550C

Analyst: **ALG**

Moisture 7.3 0.10 % of sample 1 2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-67 (2-3')
 Collection Date: 2/1/2022 01:00 PM

Work Order: 22020092
 Lab ID: 22020092-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.027		0.015	mg/Kg	1	2/4/2022 03:47 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	8.2		0.40	mg/Kg	1	2/3/2022 12:18 AM
Barium	110		0.40	mg/Kg	1	2/3/2022 12:18 AM
Cadmium	0.29		0.16	mg/Kg	1	2/3/2022 12:18 AM
Chromium	13		0.40	mg/Kg	1	2/3/2022 12:18 AM
Copper	19		0.40	mg/Kg	1	2/3/2022 12:18 AM
Lead	31		0.40	mg/Kg	1	2/3/2022 12:18 AM
Selenium	0.47		0.40	mg/Kg	1	2/3/2022 12:18 AM
Silver	ND		0.40	mg/Kg	1	2/3/2022 12:18 AM
Zinc	46		0.81	mg/Kg	1	2/3/2022 12:18 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		330	µg/Kg	10	2/5/2022 12:27 AM
1,2,4,5-Tetrachlorobenzene	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
1,4-Dioxane	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
2,2'-Oxybis(1-chloropropane)	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,3,4,6-Tetrachlorophenol	ND		660	µg/Kg	10	2/5/2022 12:27 AM
2,4,5-Trichlorophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,4,6-Trichlorophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,4-Dichlorophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,4-Dimethylphenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,4-Dinitrophenol	ND		6,600	µg/Kg	10	2/5/2022 12:27 AM
2,4-Dinitrotoluene	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2,6-Dinitrotoluene	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2-Chloronaphthalene	ND		66	µg/Kg	10	2/5/2022 12:27 AM
2-Chlorophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2-Methylnaphthalene	ND		66	µg/Kg	10	2/5/2022 12:27 AM
2-Methylphenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2-Nitroaniline	ND		330	µg/Kg	10	2/5/2022 12:27 AM
2-Nitrophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
3&4-Methylphenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
3,3'-Dichlorobenzidine	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
3-Nitroaniline	ND		330	µg/Kg	10	2/5/2022 12:27 AM
4,6-Dinitro-2-methylphenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
4-Bromophenyl phenyl ether	ND		330	µg/Kg	10	2/5/2022 12:27 AM
4-Chloro-3-methylphenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
4-Chloroaniline	ND		660	µg/Kg	10	2/5/2022 12:27 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-67 (2-3')
 Collection Date: 2/1/2022 01:00 PM

Work Order: 22020092
 Lab ID: 22020092-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		330	µg/Kg	10	2/5/2022 12:27 AM
4-Nitroaniline	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
4-Nitrophenol	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
Acenaphthene	130		66	µg/Kg	10	2/5/2022 12:27 AM
Acenaphthylene	ND		66	µg/Kg	10	2/5/2022 12:27 AM
Acetophenone	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Anthracene	590		66	µg/Kg	10	2/5/2022 12:27 AM
Atrazine	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Benzaldehyde	ND		660	µg/Kg	10	2/5/2022 12:27 AM
Benzo(a)anthracene	1,500		66	µg/Kg	10	2/5/2022 12:27 AM
Benzo(a)pyrene	1,400		66	µg/Kg	10	2/5/2022 12:27 AM
Benzo(b)fluoranthene	1,800		66	µg/Kg	10	2/5/2022 12:27 AM
Benzo(g,h,i)perylene	690		66	µg/Kg	10	2/5/2022 12:27 AM
Benzo(k)fluoranthene	650		66	µg/Kg	10	2/5/2022 12:27 AM
Bis(2-chloroethoxy)methane	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Bis(2-chloroethyl)ether	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Bis(2-ethylhexyl)phthalate	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Butyl benzyl phthalate	ND		660	µg/Kg	10	2/5/2022 12:27 AM
Caprolactam	ND		660	µg/Kg	10	2/5/2022 12:27 AM
Carbazole	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Chrysene	1,100		66	µg/Kg	10	2/5/2022 12:27 AM
Dibenzo(a,h)anthracene	200		66	µg/Kg	10	2/5/2022 12:27 AM
Dibenzofuran	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Diethyl phthalate	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Dimethyl phthalate	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Di-n-butyl phthalate	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Di-n-octyl phthalate	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Fluoranthene	3,700		66	µg/Kg	10	2/5/2022 12:27 AM
Fluorene	150		66	µg/Kg	10	2/5/2022 12:27 AM
Hexachlorobenzene	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Hexachlorobutadiene	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Hexachlorocyclopentadiene	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Hexachloroethane	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Indeno(1,2,3-cd)pyrene	970		66	µg/Kg	10	2/5/2022 12:27 AM
Isophorone	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
Naphthalene	ND		66	µg/Kg	10	2/5/2022 12:27 AM
Nitrobenzene	ND		1,700	µg/Kg	10	2/5/2022 12:27 AM
N-Nitrosodi-n-propylamine	ND		330	µg/Kg	10	2/5/2022 12:27 AM
N-Nitrosodiphenylamine	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Pentachlorophenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-67 (2-3')
 Collection Date: 2/1/2022 01:00 PM

Work Order: 22020092
 Lab ID: 22020092-11
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	1,700		66	µg/Kg	10	2/5/2022 12:27 AM
Phenol	ND		330	µg/Kg	10	2/5/2022 12:27 AM
Pyrene	2,700		66	µg/Kg	10	2/5/2022 12:27 AM
Surr: 2,4,6-Tribromophenol	83.4		38-92	%REC	10	2/5/2022 12:27 AM
Surr: 2-Fluorobiphenyl	73.2		44-107	%REC	10	2/5/2022 12:27 AM
Surr: 2-Fluorophenol	68.2		37-109	%REC	10	2/5/2022 12:27 AM
Surr: 4-Terphenyl-d14	83.6		52-123	%REC	10	2/5/2022 12:27 AM
Surr: Nitrobenzene-d5	76.0		41-94	%REC	10	2/5/2022 12:27 AM
Surr: Phenol-d6	78.8		28-111	%REC	10	2/5/2022 12:27 AM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: MF

1,1,1,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1,2-Trichlorotrifluoroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2,3-Trichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2,4-Trimethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2-Dibromoethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
1,3-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
1,4-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/2/2022 06:59 PM
2-Hexanone	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
Benzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Bromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Bromodichloromethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Bromoform	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-67 (2-3')
Collection Date: 2/1/2022 01:00 PM

Work Order: 22020092
Lab ID: 22020092-11
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Chlorobenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
Chloroform	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Dibromochloromethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Dibromomethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
Diethyl ether	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
Isopropylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
m,p-Xylene	ND		70	µg/Kg-dry	1	2/2/2022 06:59 PM
Methyl iodide	ND		590	µg/Kg-dry	1	2/2/2022 06:59 PM
Methyl tert-butyl ether	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Methylene chloride	ND		290	µg/Kg-dry	1	2/2/2022 06:59 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 06:59 PM
n-Propylbenzene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
o-Xylene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Styrene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Tetrachloroethene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Toluene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Trichloroethene	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Trichlorofluoromethane	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Vinyl acetate	ND		290	µg/Kg-dry	1	2/2/2022 06:59 PM
Vinyl chloride	ND		35	µg/Kg-dry	1	2/2/2022 06:59 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 06:59 PM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	2/2/2022 06:59 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	2/2/2022 06:59 PM
Surr: Dibromofluoromethane	94.2		70-130	%REC	1	2/2/2022 06:59 PM
Surr: Toluene-d8	106		70-130	%REC	1	2/2/2022 06:59 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **14** **0.10** **% of sample** **1** **2/3/2022 02:00 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-68 (3-4')
 Collection Date: 2/1/2022 01:15 PM

Work Order: 22020092
 Lab ID: 22020092-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.018		0.014	mg/Kg	1	2/4/2022 03:49 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	9.5		0.36	mg/Kg	1	2/3/2022 12:21 AM
Barium	48		0.36	mg/Kg	1	2/3/2022 12:21 AM
Cadmium	ND		0.14	mg/Kg	1	2/3/2022 12:21 AM
Chromium	28		0.36	mg/Kg	1	2/3/2022 12:21 AM
Copper	40		0.36	mg/Kg	1	2/3/2022 12:21 AM
Lead	6.6		0.36	mg/Kg	1	2/3/2022 12:21 AM
Selenium	ND		0.36	mg/Kg	1	2/3/2022 12:21 AM
Silver	ND		0.36	mg/Kg	1	2/3/2022 12:21 AM
Zinc	23		0.72	mg/Kg	1	2/3/2022 12:21 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/3/22 15:33		Analyst: EE
1,1'-Biphenyl	ND		32	µg/Kg	1	2/4/2022 09:03 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/4/2022 09:03 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/4/2022 09:03 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/4/2022 09:03 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/4/2022 09:03 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2-Methylnaphthalene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
2-Methylphenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 09:03 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/4/2022 09:03 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/4/2022 09:03 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 09:03 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/4/2022 09:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-68 (3-4')
 Collection Date: 2/1/2022 01:15 PM

Work Order: 22020092
 Lab ID: 22020092-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/4/2022 09:03 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/4/2022 09:03 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/4/2022 09:03 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Acetophenone	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Anthracene	7.2		6.6	µg/Kg	1	2/4/2022 09:03 PM
Atrazine	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Benzaldehyde	ND		66	µg/Kg	1	2/4/2022 09:03 PM
Benzo(a)anthracene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Benzo(a)pyrene	12		6.6	µg/Kg	1	2/4/2022 09:03 PM
Benzo(b)fluoranthene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Benzo(g,h,i)perylene	7.9		6.6	µg/Kg	1	2/4/2022 09:03 PM
Benzo(k)fluoranthene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/4/2022 09:03 PM
Caprolactam	ND		66	µg/Kg	1	2/4/2022 09:03 PM
Carbazole	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Chrysene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Dibenzofuran	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Fluoranthene	22		6.6	µg/Kg	1	2/4/2022 09:03 PM
Fluorene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Hexachloroethane	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Indeno(1,2,3-cd)pyrene	10		6.6	µg/Kg	1	2/4/2022 09:03 PM
Isophorone	ND		160	µg/Kg	1	2/4/2022 09:03 PM
Naphthalene	ND		6.6	µg/Kg	1	2/4/2022 09:03 PM
Nitrobenzene	ND		160	µg/Kg	1	2/4/2022 09:03 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/4/2022 09:03 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-68 (3-4')
 Collection Date: 2/1/2022 01:15 PM

Work Order: 22020092
 Lab ID: 22020092-12
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	17		6.6	µg/Kg	1	2/4/2022 09:03 PM
Phenol	ND		32	µg/Kg	1	2/4/2022 09:03 PM
Pyrene	16		6.6	µg/Kg	1	2/4/2022 09:03 PM
Surr: 2,4,6-Tribromophenol	75.1		38-92	%REC	1	2/4/2022 09:03 PM
Surr: 2-Fluorobiphenyl	67.2		44-107	%REC	1	2/4/2022 09:03 PM
Surr: 2-Fluorophenol	74.0		37-109	%REC	1	2/4/2022 09:03 PM
Surr: 4-Terphenyl-d14	74.4		52-123	%REC	1	2/4/2022 09:03 PM
Surr: Nitrobenzene-d5	59.0		41-94	%REC	1	2/4/2022 09:03 PM
Surr: Phenol-d6	79.2		28-111	%REC	1	2/4/2022 09:03 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1,1-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1,2,2-Tetrachloroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1,2-Trichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1,2-Trichlorotrifluoroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1-Dichloroethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,1-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2,3-Trichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2,4-Trimethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2-Dibromoethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
1,2-Dichloropropane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
1,3-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
1,4-Dichlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
2-Butanone	ND		250	µg/Kg-dry	1	2/2/2022 07:18 PM
2-Hexanone	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
4-Methyl-2-pentanone	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
Benzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Bromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Bromodichloromethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Bromoform	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-68 (3-4')
Collection Date: 2/1/2022 01:15 PM

Work Order: 22020092
Lab ID: 22020092-12
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Carbon tetrachloride	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Chlorobenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
Chloroform	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
cis-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
cis-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Dibromochloromethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Dibromomethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
Diethyl ether	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
Isopropylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	2/2/2022 07:18 PM
Methyl iodide	ND		620	µg/Kg-dry	1	2/2/2022 07:18 PM
Methyl tert-butyl ether	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Methylene chloride	ND		310	µg/Kg-dry	1	2/2/2022 07:18 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 07:18 PM
n-Propylbenzene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
o-Xylene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Styrene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Tetrachloroethene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Toluene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
trans-1,2-Dichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
trans-1,3-Dichloropropene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
trans-1,4-Dichloro-2-butene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Trichloroethene	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Trichlorofluoromethane	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Vinyl acetate	ND		310	µg/Kg-dry	1	2/2/2022 07:18 PM
Vinyl chloride	ND		37	µg/Kg-dry	1	2/2/2022 07:18 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 07:18 PM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	2/2/2022 07:18 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	2/2/2022 07:18 PM
Surr: Dibromofluoromethane	99.5		70-130	%REC	1	2/2/2022 07:18 PM
Surr: Toluene-d8	98.1		70-130	%REC	1	2/2/2022 07:18 PM

MOISTURE

SW3550C

Analyst: **ALG**

Moisture 16 0.10 % of sample 1 2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-69 (2-3')
 Collection Date: 2/1/2022 01:30 PM

Work Order: 22020092
 Lab ID: 22020092-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.031		0.014	mg/Kg	1	2/4/2022 03:51 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	4.1		0.36	mg/Kg	1	2/3/2022 12:23 AM
Barium	33		0.36	mg/Kg	1	2/3/2022 12:23 AM
Cadmium	1.7		0.14	mg/Kg	1	2/3/2022 12:23 AM
Chromium	22		0.36	mg/Kg	1	2/3/2022 12:23 AM
Copper	41		0.36	mg/Kg	1	2/3/2022 12:23 AM
Lead	270		3.6	mg/Kg	10	2/3/2022 03:33 PM
Selenium	ND		0.36	mg/Kg	1	2/3/2022 12:23 AM
Silver	ND		0.36	mg/Kg	1	2/3/2022 12:23 AM
Zinc	86		0.72	mg/Kg	1	2/3/2022 12:23 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		32	µg/Kg	1	2/7/2022 09:07 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/7/2022 09:07 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/7/2022 09:07 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/7/2022 09:07 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/7/2022 09:07 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2-Methylnaphthalene	33		6.6	µg/Kg	1	2/7/2022 09:07 PM
2-Methylphenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/7/2022 09:07 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/7/2022 09:07 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/7/2022 09:07 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/7/2022 09:07 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/7/2022 09:07 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-69 (2-3')
 Collection Date: 2/1/2022 01:30 PM

Work Order: 22020092
 Lab ID: 22020092-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/7/2022 09:07 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/7/2022 09:07 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/7/2022 09:07 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
Acetophenone	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Anthracene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
Atrazine	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Benzaldehyde	ND		66	µg/Kg	1	2/7/2022 09:07 PM
Benzo(a)anthracene	17		6.6	µg/Kg	1	2/7/2022 09:07 PM
Benzo(a)pyrene	15		6.6	µg/Kg	1	2/7/2022 09:07 PM
Benzo(b)fluoranthene	31		6.6	µg/Kg	1	2/7/2022 09:07 PM
Benzo(g,h,i)perylene	27		6.6	µg/Kg	1	2/7/2022 09:07 PM
Benzo(k)fluoranthene	9.8		6.6	µg/Kg	1	2/7/2022 09:07 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/7/2022 09:07 PM
Caprolactam	ND		66	µg/Kg	1	2/7/2022 09:07 PM
Carbazole	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Chrysene	18		6.6	µg/Kg	1	2/7/2022 09:07 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
Dibenzofuran	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Fluoranthene	29		6.6	µg/Kg	1	2/7/2022 09:07 PM
Fluorene	ND		6.6	µg/Kg	1	2/7/2022 09:07 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Hexachloroethane	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Indeno(1,2,3-cd)pyrene	27		6.6	µg/Kg	1	2/7/2022 09:07 PM
Isophorone	ND		160	µg/Kg	1	2/7/2022 09:07 PM
Naphthalene	13		6.6	µg/Kg	1	2/7/2022 09:07 PM
Nitrobenzene	ND		160	µg/Kg	1	2/7/2022 09:07 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/7/2022 09:07 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-69 (2-3')
 Collection Date: 2/1/2022 01:30 PM

Work Order: 22020092
 Lab ID: 22020092-13
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	20		6.6	µg/Kg	1	2/7/2022 09:07 PM
Phenol	ND		32	µg/Kg	1	2/7/2022 09:07 PM
Pyrene	28		6.6	µg/Kg	1	2/7/2022 09:07 PM
Surr: 2,4,6-Tribromophenol	47.7		38-92	%REC	1	2/7/2022 09:07 PM
Surr: 2-Fluorobiphenyl	72.1		44-107	%REC	1	2/7/2022 09:07 PM
Surr: 2-Fluorophenol	61.3		37-109	%REC	1	2/7/2022 09:07 PM
Surr: 4-Terphenyl-d14	69.1		52-123	%REC	1	2/7/2022 09:07 PM
Surr: Nitrobenzene-d5	65.2		41-94	%REC	1	2/7/2022 09:07 PM
Surr: Phenol-d6	83.6		28-111	%REC	1	2/7/2022 09:07 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1,1-Trichloroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1,2,2-Tetrachloroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1,2-Trichloroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1,2-Trichlorotrifluoroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1-Dichloroethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,1-Dichloroethene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2,3-Trichloropropane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2,4-Trichlorobenzene	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2,4-Trimethylbenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2-Dibromo-3-chloropropane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2-Dibromoethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2-Dichlorobenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2-Dichloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
1,2-Dichloropropane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,3,5-Trimethylbenzene	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
1,3-Dichlorobenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
1,4-Dichlorobenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
2-Butanone	ND		270	µg/Kg-dry	1	2/2/2022 07:36 PM
2-Hexanone	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
2-Methylnaphthalene	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
4-Methyl-2-pentanone	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Acetone	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
Acrylonitrile	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
Benzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Bromochloromethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Bromodichloromethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Bromoform	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Bromomethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-69 (2-3')
Collection Date: 2/1/2022 01:30 PM

Work Order: 22020092
Lab ID: 22020092-13
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Carbon tetrachloride	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Chlorobenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Chloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
Chloroform	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Chloromethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
cis-1,2-Dichloroethene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
cis-1,3-Dichloropropene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Dibromochloromethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Dibromomethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Dichlorodifluoromethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
Diethyl ether	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Ethylbenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Hexachloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
Isopropylbenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
m,p-Xylene	ND		81	µg/Kg-dry	1	2/2/2022 07:36 PM
Methyl iodide	ND		680	µg/Kg-dry	1	2/2/2022 07:36 PM
Methyl tert-butyl ether	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Methylene chloride	ND		340	µg/Kg-dry	1	2/2/2022 07:36 PM
Naphthalene	ND		140	µg/Kg-dry	1	2/2/2022 07:36 PM
n-Propylbenzene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
o-Xylene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Styrene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Tetrachloroethene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Toluene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
trans-1,2-Dichloroethene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
trans-1,3-Dichloropropene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
trans-1,4-Dichloro-2-butene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Trichloroethene	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Trichlorofluoromethane	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Vinyl acetate	ND		340	µg/Kg-dry	1	2/2/2022 07:36 PM
Vinyl chloride	ND		41	µg/Kg-dry	1	2/2/2022 07:36 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	2/2/2022 07:36 PM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	2/2/2022 07:36 PM
Surr: 4-Bromofluorobenzene	110		70-130	%REC	1	2/2/2022 07:36 PM
Surr: Dibromofluoromethane	96.1		70-130	%REC	1	2/2/2022 07:36 PM
Surr: Toluene-d8	104		70-130	%REC	1	2/2/2022 07:36 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **20** **0.10** **% of sample** **1** **2/3/2022 02:00 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-70 (2-3')
 Collection Date: 2/1/2022 02:00 PM

Work Order: 22020092
 Lab ID: 22020092-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.021		0.013	mg/Kg	1	2/4/2022 03:53 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	3.9		0.41	mg/Kg	1	2/3/2022 12:26 AM
Barium	76		0.41	mg/Kg	1	2/3/2022 12:26 AM
Cadmium	0.26		0.16	mg/Kg	1	2/3/2022 12:26 AM
Chromium	7.3		0.41	mg/Kg	1	2/3/2022 12:26 AM
Copper	16		0.41	mg/Kg	1	2/3/2022 12:26 AM
Lead	44		0.41	mg/Kg	1	2/3/2022 12:26 AM
Selenium	0.66		0.41	mg/Kg	1	2/3/2022 12:26 AM
Silver	ND		0.41	mg/Kg	1	2/3/2022 12:26 AM
Zinc	33		0.82	mg/Kg	1	2/3/2022 12:26 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		160	µg/Kg	5	2/7/2022 10:29 PM
1,2,4,5-Tetrachlorobenzene	ND		810	µg/Kg	5	2/7/2022 10:29 PM
1,4-Dioxane	ND		810	µg/Kg	5	2/7/2022 10:29 PM
2,2'-Oxybis(1-chloropropane)	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,3,4,6-Tetrachlorophenol	ND		330	µg/Kg	5	2/7/2022 10:29 PM
2,4,5-Trichlorophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,4,6-Trichlorophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,4-Dichlorophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,4-Dimethylphenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,4-Dinitrophenol	ND		3,200	µg/Kg	5	2/7/2022 10:29 PM
2,4-Dinitrotoluene	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2,6-Dinitrotoluene	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2-Chloronaphthalene	ND		32	µg/Kg	5	2/7/2022 10:29 PM
2-Chlorophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2-Methylnaphthalene	55		32	µg/Kg	5	2/7/2022 10:29 PM
2-Methylphenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2-Nitroaniline	ND		160	µg/Kg	5	2/7/2022 10:29 PM
2-Nitrophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
3&4-Methylphenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
3,3'-Dichlorobenzidine	ND		810	µg/Kg	5	2/7/2022 10:29 PM
3-Nitroaniline	ND		160	µg/Kg	5	2/7/2022 10:29 PM
4,6-Dinitro-2-methylphenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
4-Bromophenyl phenyl ether	ND		160	µg/Kg	5	2/7/2022 10:29 PM
4-Chloro-3-methylphenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
4-Chloroaniline	ND		330	µg/Kg	5	2/7/2022 10:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-70 (2-3')
 Collection Date: 2/1/2022 02:00 PM

Work Order: 22020092
 Lab ID: 22020092-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		160	µg/Kg	5	2/7/2022 10:29 PM
4-Nitroaniline	ND		810	µg/Kg	5	2/7/2022 10:29 PM
4-Nitrophenol	ND		810	µg/Kg	5	2/7/2022 10:29 PM
Acenaphthene	88		32	µg/Kg	5	2/7/2022 10:29 PM
Acenaphthylene	ND		32	µg/Kg	5	2/7/2022 10:29 PM
Acetophenone	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Anthracene	210		32	µg/Kg	5	2/7/2022 10:29 PM
Atrazine	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Benzaldehyde	ND		330	µg/Kg	5	2/7/2022 10:29 PM
Benzo(a)anthracene	550		32	µg/Kg	5	2/7/2022 10:29 PM
Benzo(a)pyrene	470		32	µg/Kg	5	2/7/2022 10:29 PM
Benzo(b)fluoranthene	650		32	µg/Kg	5	2/7/2022 10:29 PM
Benzo(g,h,i)perylene	300		32	µg/Kg	5	2/7/2022 10:29 PM
Benzo(k)fluoranthene	230		32	µg/Kg	5	2/7/2022 10:29 PM
Bis(2-chloroethoxy)methane	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Bis(2-chloroethyl)ether	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Bis(2-ethylhexyl)phthalate	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Butyl benzyl phthalate	ND		330	µg/Kg	5	2/7/2022 10:29 PM
Caprolactam	ND		330	µg/Kg	5	2/7/2022 10:29 PM
Carbazole	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Chrysene	530		32	µg/Kg	5	2/7/2022 10:29 PM
Dibenzo(a,h)anthracene	75		32	µg/Kg	5	2/7/2022 10:29 PM
Dibenzofuran	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Diethyl phthalate	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Dimethyl phthalate	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Di-n-butyl phthalate	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Di-n-octyl phthalate	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Fluoranthene	1,400		32	µg/Kg	5	2/7/2022 10:29 PM
Fluorene	88		32	µg/Kg	5	2/7/2022 10:29 PM
Hexachlorobenzene	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Hexachlorobutadiene	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Hexachlorocyclopentadiene	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Hexachloroethane	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Indeno(1,2,3-cd)pyrene	350		32	µg/Kg	5	2/7/2022 10:29 PM
Isophorone	ND		810	µg/Kg	5	2/7/2022 10:29 PM
Naphthalene	130		32	µg/Kg	5	2/7/2022 10:29 PM
Nitrobenzene	ND		810	µg/Kg	5	2/7/2022 10:29 PM
N-Nitrosodi-n-propylamine	ND		160	µg/Kg	5	2/7/2022 10:29 PM
N-Nitrosodiphenylamine	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Pentachlorophenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-70 (2-3')
 Collection Date: 2/1/2022 02:00 PM

Work Order: 22020092
 Lab ID: 22020092-14
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	690		32	µg/Kg	5	2/7/2022 10:29 PM
Phenol	ND		160	µg/Kg	5	2/7/2022 10:29 PM
Pyrene	970		32	µg/Kg	5	2/7/2022 10:29 PM
Surr: 2,4,6-Tribromophenol	58.2		38-92	%REC	5	2/7/2022 10:29 PM
Surr: 2-Fluorobiphenyl	59.4		44-107	%REC	5	2/7/2022 10:29 PM
Surr: 2-Fluorophenol	65.0		37-109	%REC	5	2/7/2022 10:29 PM
Surr: 4-Terphenyl-d14	56.4		52-123	%REC	5	2/7/2022 10:29 PM
Surr: Nitrobenzene-d5	46.2		41-94	%REC	5	2/7/2022 10:29 PM
Surr: Phenol-d6	72.1		28-111	%REC	5	2/7/2022 10:29 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1,1-Trichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1,2,2-Tetrachloroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1,2-Trichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1,2-Trichlorotrifluoroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1-Dichloroethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,1-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2,3-Trichloropropane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2,4-Trichlorobenzene	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2,4-Trimethylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2-Dibromo-3-chloropropane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2-Dibromoethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2-Dichloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
1,2-Dichloropropane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,3,5-Trimethylbenzene	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
1,3-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
1,4-Dichlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
2-Butanone	ND		280	µg/Kg-dry	1	2/2/2022 07:54 PM
2-Hexanone	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
2-Methylnaphthalene	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
4-Methyl-2-pentanone	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Acetone	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
Acrylonitrile	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
Benzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Bromochloromethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Bromodichloromethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Bromoform	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Bromomethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-70 (2-3')
Collection Date: 2/1/2022 02:00 PM

Work Order: 22020092
Lab ID: 22020092-14
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Carbon tetrachloride	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Chlorobenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Chloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
Chloroform	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Chloromethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
cis-1,2-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
cis-1,3-Dichloropropene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Dibromochloromethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Dibromomethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Dichlorodifluoromethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
Diethyl ether	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Ethylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Hexachloroethane	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
Isopropylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
m,p-Xylene	ND		85	µg/Kg-dry	1	2/2/2022 07:54 PM
Methyl iodide	ND		710	µg/Kg-dry	1	2/2/2022 07:54 PM
Methyl tert-butyl ether	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Methylene chloride	ND		350	µg/Kg-dry	1	2/2/2022 07:54 PM
Naphthalene	ND		140	µg/Kg-dry	1	2/2/2022 07:54 PM
n-Propylbenzene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
o-Xylene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Styrene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Tetrachloroethene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Toluene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
trans-1,2-Dichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
trans-1,3-Dichloropropene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
trans-1,4-Dichloro-2-butene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Trichloroethene	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Trichlorofluoromethane	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Vinyl acetate	ND		350	µg/Kg-dry	1	2/2/2022 07:54 PM
Vinyl chloride	ND		42	µg/Kg-dry	1	2/2/2022 07:54 PM
Xylenes, Total	ND		130	µg/Kg-dry	1	2/2/2022 07:54 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	2/2/2022 07:54 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	2/2/2022 07:54 PM
Surr: Dibromofluoromethane	98.1		70-130	%REC	1	2/2/2022 07:54 PM
Surr: Toluene-d8	107		70-130	%REC	1	2/2/2022 07:54 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **20** **0.10** **% of sample** **1** **2/3/2022 02:00 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-71 (1-2')
Collection Date: 2/1/2022 02:30 PM

Work Order: 22020092
Lab ID: 22020092-15
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 03:54 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.3		0.34	mg/Kg	1	2/3/2022 01:03 AM
Barium	31		0.34	mg/Kg	1	2/3/2022 01:03 AM
Cadmium	ND		0.14	mg/Kg	1	2/3/2022 01:03 AM
Chromium	4.6		0.34	mg/Kg	1	2/3/2022 01:03 AM
Copper	14		0.34	mg/Kg	1	2/3/2022 01:03 AM
Lead	28		0.34	mg/Kg	1	2/3/2022 01:03 AM
Selenium	ND		0.34	mg/Kg	1	2/3/2022 01:03 AM
Silver	ND		0.34	mg/Kg	1	2/3/2022 01:03 AM
Zinc	23		0.69	mg/Kg	1	2/3/2022 01:03 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/7/2022 09:34 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/7/2022 09:34 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/7/2022 09:34 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/7/2022 09:34 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/7/2022 09:34 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/7/2022 09:34 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2-Methylnaphthalene	28		6.6	µg/Kg	1	2/7/2022 09:34 PM
2-Methylphenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/7/2022 09:34 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/7/2022 09:34 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/7/2022 09:34 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/7/2022 09:34 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/7/2022 09:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-71 (1-2')
 Collection Date: 2/1/2022 02:30 PM

Work Order: 22020092
 Lab ID: 22020092-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/7/2022 09:34 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/7/2022 09:34 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/7/2022 09:34 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/7/2022 09:34 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/7/2022 09:34 PM
Acetophenone	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Anthracene	35		6.6	µg/Kg	1	2/7/2022 09:34 PM
Atrazine	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Benzaldehyde	ND		66	µg/Kg	1	2/7/2022 09:34 PM
Benzo(a)anthracene	330		6.6	µg/Kg	1	2/7/2022 09:34 PM
Benzo(a)pyrene	320		6.6	µg/Kg	1	2/7/2022 09:34 PM
Benzo(b)fluoranthene	450		6.6	µg/Kg	1	2/7/2022 09:34 PM
Benzo(g,h,i)perylene	210		6.6	µg/Kg	1	2/7/2022 09:34 PM
Benzo(k)fluoranthene	170		6.6	µg/Kg	1	2/7/2022 09:34 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/7/2022 09:34 PM
Caprolactam	ND		66	µg/Kg	1	2/7/2022 09:34 PM
Carbazole	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Chrysene	330		6.6	µg/Kg	1	2/7/2022 09:34 PM
Dibenzo(a,h)anthracene	49		6.6	µg/Kg	1	2/7/2022 09:34 PM
Dibenzofuran	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Fluoranthene	610		6.6	µg/Kg	1	2/7/2022 09:34 PM
Fluorene	ND		6.6	µg/Kg	1	2/7/2022 09:34 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Hexachloroethane	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Indeno(1,2,3-cd)pyrene	250		6.6	µg/Kg	1	2/7/2022 09:34 PM
Isophorone	ND		160	µg/Kg	1	2/7/2022 09:34 PM
Naphthalene	18		6.6	µg/Kg	1	2/7/2022 09:34 PM
Nitrobenzene	ND		160	µg/Kg	1	2/7/2022 09:34 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/7/2022 09:34 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-71 (1-2')
 Collection Date: 2/1/2022 02:30 PM

Work Order: 22020092
 Lab ID: 22020092-15
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	140		6.6	µg/Kg	1	2/7/2022 09:34 PM
Phenol	ND		33	µg/Kg	1	2/7/2022 09:34 PM
Pyrene	480		6.6	µg/Kg	1	2/7/2022 09:34 PM
Surr: 2,4,6-Tribromophenol	46.6		38-92	%REC	1	2/7/2022 09:34 PM
Surr: 2-Fluorobiphenyl	70.3		44-107	%REC	1	2/7/2022 09:34 PM
Surr: 2-Fluorophenol	58.1		37-109	%REC	1	2/7/2022 09:34 PM
Surr: 4-Terphenyl-d14	70.3		52-123	%REC	1	2/7/2022 09:34 PM
Surr: Nitrobenzene-d5	67.6		41-94	%REC	1	2/7/2022 09:34 PM
Surr: Phenol-d6	83.2		28-111	%REC	1	2/7/2022 09:34 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1,1-Trichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1,2,2-Tetrachloroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1,2-Trichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1,2-Trichlorotrifluoroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1-Dichloroethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,1-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2,3-Trichloropropane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2,4-Trichlorobenzene	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2,4-Trimethylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2-Dibromo-3-chloropropane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2-Dibromoethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2-Dichloroethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
1,2-Dichloropropane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,3,5-Trimethylbenzene	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
1,3-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
1,4-Dichlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
2-Butanone	ND		330	µg/Kg-dry	1	2/2/2022 08:45 PM
2-Hexanone	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
2-Methylnaphthalene	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
4-Methyl-2-pentanone	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Acetone	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
Acrylonitrile	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
Benzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Bromochloromethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Bromodichloromethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Bromoform	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Bromomethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-71 (1-2')
Collection Date: 2/1/2022 02:30 PM

Work Order: 22020092
Lab ID: 22020092-15
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Carbon tetrachloride	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Chlorobenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Chloroethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
Chloroform	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Chloromethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
cis-1,2-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
cis-1,3-Dichloropropene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Dibromochloromethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Dibromomethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Dichlorodifluoromethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
Diethyl ether	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Ethylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Hexachloroethane	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
Isopropylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
m,p-Xylene	ND		99	µg/Kg-dry	1	2/2/2022 08:45 PM
Methyl iodide	ND		820	µg/Kg-dry	1	2/2/2022 08:45 PM
Methyl tert-butyl ether	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Methylene chloride	ND		410	µg/Kg-dry	1	2/2/2022 08:45 PM
Naphthalene	ND		160	µg/Kg-dry	1	2/2/2022 08:45 PM
n-Propylbenzene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
o-Xylene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Styrene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Tetrachloroethene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Toluene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
trans-1,2-Dichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
trans-1,3-Dichloropropene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
trans-1,4-Dichloro-2-butene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Trichloroethene	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Trichlorofluoromethane	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Vinyl acetate	ND		410	µg/Kg-dry	1	2/2/2022 08:45 PM
Vinyl chloride	ND		49	µg/Kg-dry	1	2/2/2022 08:45 PM
Xylenes, Total	ND		150	µg/Kg-dry	1	2/2/2022 08:45 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	2/2/2022 08:45 PM
Surr: 4-Bromofluorobenzene	94.7		70-130	%REC	1	2/2/2022 08:45 PM
Surr: Dibromofluoromethane	98.9		70-130	%REC	1	2/2/2022 08:45 PM
Surr: Toluene-d8	107		70-130	%REC	1	2/2/2022 08:45 PM

MOISTURE

SW3550C

Analyst: **ALG**

Moisture 11 0.10 % of sample 1 2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-72 (4-5') + MS/MSD
Collection Date: 2/1/2022 02:45 PM

Work Order: 22020092
Lab ID: 22020092-16
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 03:56 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	6.6		0.38	mg/Kg	1	2/3/2022 01:06 AM
Barium	49		0.38	mg/Kg	1	2/3/2022 01:06 AM
Cadmium	ND		0.15	mg/Kg	1	2/3/2022 01:06 AM
Chromium	13		0.38	mg/Kg	1	2/3/2022 01:06 AM
Copper	11		0.38	mg/Kg	1	2/3/2022 01:06 AM
Lead	6.8		0.38	mg/Kg	1	2/3/2022 01:06 AM
Selenium	ND		0.38	mg/Kg	1	2/3/2022 01:06 AM
Silver	ND		0.38	mg/Kg	1	2/3/2022 01:06 AM
Zinc	34		0.76	mg/Kg	1	2/3/2022 01:06 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/7/2022 08:40 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/7/2022 08:40 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/7/2022 08:40 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/7/2022 08:40 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/7/2022 08:40 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2-Methylnaphthalene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
2-Methylphenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/7/2022 08:40 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/7/2022 08:40 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/7/2022 08:40 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/7/2022 08:40 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/7/2022 08:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-72 (4-5') + MS/MSD
 Collection Date: 2/1/2022 02:45 PM

Work Order: 22020092
 Lab ID: 22020092-16
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/7/2022 08:40 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/7/2022 08:40 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/7/2022 08:40 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Acetophenone	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Anthracene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Atrazine	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Benzaldehyde	ND		66	µg/Kg	1	2/7/2022 08:40 PM
Benzo(a)anthracene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Benzo(a)pyrene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Benzo(b)fluoranthene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Benzo(g,h,i)perylene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Benzo(k)fluoranthene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/7/2022 08:40 PM
Caprolactam	ND		66	µg/Kg	1	2/7/2022 08:40 PM
Carbazole	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Chrysene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Dibenzofuran	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Fluoranthene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Fluorene	9.9		6.6	µg/Kg	1	2/7/2022 08:40 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Hexachloroethane	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Indeno(1,2,3-cd)pyrene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Isophorone	ND		170	µg/Kg	1	2/7/2022 08:40 PM
Naphthalene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Nitrobenzene	ND		170	µg/Kg	1	2/7/2022 08:40 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/7/2022 08:40 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-72 (4-5') + MS/MSD
 Collection Date: 2/1/2022 02:45 PM

Work Order: 22020092
 Lab ID: 22020092-16
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Phenol	ND		33	µg/Kg	1	2/7/2022 08:40 PM
Pyrene	ND		6.6	µg/Kg	1	2/7/2022 08:40 PM
Surr: 2,4,6-Tribromophenol	68.5		38-92	%REC	1	2/7/2022 08:40 PM
Surr: 2-Fluorobiphenyl	67.1		44-107	%REC	1	2/7/2022 08:40 PM
Surr: 2-Fluorophenol	74.8		37-109	%REC	1	2/7/2022 08:40 PM
Surr: 4-Terphenyl-d14	64.0		52-123	%REC	1	2/7/2022 08:40 PM
Surr: Nitrobenzene-d5	70.2		41-94	%REC	1	2/7/2022 08:40 PM
Surr: Phenol-d6	89.3		28-111	%REC	1	2/7/2022 08:40 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **DMS**

1,1,1,2-Tetrachloroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1,1-Trichloroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1,2,2-Tetrachloroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1,2-Trichloroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1,2-Trichlorotrifluoroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1-Dichloroethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,1-Dichloroethene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2,3-Trichloropropane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2,4-Trimethylbenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2-Dibromoethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2-Dichlorobenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
1,2-Dichloropropane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
1,3-Dichlorobenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
1,4-Dichlorobenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
2-Butanone	ND		220	µg/Kg-dry	1	2/4/2022 01:27 PM
2-Hexanone	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
4-Methyl-2-pentanone	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Acetone	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
Benzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Bromochloromethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Bromodichloromethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Bromoform	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-72 (4-5') + MS/MSD
Collection Date: 2/1/2022 02:45 PM

Work Order: 22020092
Lab ID: 22020092-16
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Carbon tetrachloride	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Chlorobenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
Chloroform	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
cis-1,2-Dichloroethene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
cis-1,3-Dichloropropene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Dibromochloromethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Dibromomethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
Diethyl ether	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
Isopropylbenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
m,p-Xylene	ND		66	µg/Kg-dry	1	2/4/2022 01:27 PM
Methyl iodide	ND		550	µg/Kg-dry	1	2/4/2022 01:27 PM
Methyl tert-butyl ether	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Methylene chloride	ND		280	µg/Kg-dry	1	2/4/2022 01:27 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/4/2022 01:27 PM
n-Propylbenzene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
o-Xylene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Styrene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Tetrachloroethene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Toluene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
trans-1,2-Dichloroethene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
trans-1,3-Dichloropropene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
trans-1,4-Dichloro-2-butene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Trichloroethene	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Trichlorofluoromethane	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Vinyl acetate	ND		280	µg/Kg-dry	1	2/4/2022 01:27 PM
Vinyl chloride	ND		33	µg/Kg-dry	1	2/4/2022 01:27 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/4/2022 01:27 PM
Surr: 1,2-Dichloroethane-d4	98.1		70-130	%REC	1	2/4/2022 01:27 PM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	2/4/2022 01:27 PM
Surr: Dibromofluoromethane	96.1		70-130	%REC	1	2/4/2022 01:27 PM
Surr: Toluene-d8	96.8		70-130	%REC	1	2/4/2022 01:27 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	12		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-74 (0-1')
 Collection Date: 2/1/2022 04:00 PM

Work Order: 22020092
 Lab ID: 22020092-17
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.018		0.014	mg/Kg	1	2/4/2022 04:07 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	1.7		0.35	mg/Kg	1	2/3/2022 01:19 AM
Barium	100		0.35	mg/Kg	1	2/3/2022 01:19 AM
Cadmium	0.17		0.14	mg/Kg	1	2/3/2022 01:19 AM
Chromium	15		0.35	mg/Kg	1	2/3/2022 01:19 AM
Copper	8.2		0.35	mg/Kg	1	2/3/2022 01:19 AM
Lead	16		0.35	mg/Kg	1	2/3/2022 01:19 AM
Selenium	0.54		0.35	mg/Kg	1	2/3/2022 01:19 AM
Silver	ND		0.35	mg/Kg	1	2/3/2022 01:19 AM
Zinc	34		0.71	mg/Kg	1	2/3/2022 01:19 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		320	µg/Kg	10	2/7/2022 10:56 PM
1,2,4,5-Tetrachlorobenzene	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
1,4-Dioxane	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
2,2'-Oxybis(1-chloropropane)	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,3,4,6-Tetrachlorophenol	ND		640	µg/Kg	10	2/7/2022 10:56 PM
2,4,5-Trichlorophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,4,6-Trichlorophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,4-Dichlorophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,4-Dimethylphenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,4-Dinitrophenol	ND		6,400	µg/Kg	10	2/7/2022 10:56 PM
2,4-Dinitrotoluene	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2,6-Dinitrotoluene	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2-Chloronaphthalene	ND		64	µg/Kg	10	2/7/2022 10:56 PM
2-Chlorophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2-Methylnaphthalene	ND		64	µg/Kg	10	2/7/2022 10:56 PM
2-Methylphenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2-Nitroaniline	ND		320	µg/Kg	10	2/7/2022 10:56 PM
2-Nitrophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
3&4-Methylphenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
3,3'-Dichlorobenzidine	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
3-Nitroaniline	ND		320	µg/Kg	10	2/7/2022 10:56 PM
4,6-Dinitro-2-methylphenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
4-Bromophenyl phenyl ether	ND		320	µg/Kg	10	2/7/2022 10:56 PM
4-Chloro-3-methylphenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
4-Chloroaniline	ND		640	µg/Kg	10	2/7/2022 10:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-74 (0-1')
 Collection Date: 2/1/2022 04:00 PM

Work Order: 22020092
 Lab ID: 22020092-17
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		320	µg/Kg	10	2/7/2022 10:56 PM
4-Nitroaniline	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
4-Nitrophenol	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
Acenaphthene	160		64	µg/Kg	10	2/7/2022 10:56 PM
Acenaphthylene	ND		64	µg/Kg	10	2/7/2022 10:56 PM
Acetophenone	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Anthracene	550		64	µg/Kg	10	2/7/2022 10:56 PM
Atrazine	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Benzaldehyde	ND		640	µg/Kg	10	2/7/2022 10:56 PM
Benzo(a)anthracene	1,200		64	µg/Kg	10	2/7/2022 10:56 PM
Benzo(a)pyrene	970		64	µg/Kg	10	2/7/2022 10:56 PM
Benzo(b)fluoranthene	1,300		64	µg/Kg	10	2/7/2022 10:56 PM
Benzo(g,h,i)perylene	530		64	µg/Kg	10	2/7/2022 10:56 PM
Benzo(k)fluoranthene	470		64	µg/Kg	10	2/7/2022 10:56 PM
Bis(2-chloroethoxy)methane	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Bis(2-chloroethyl)ether	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Bis(2-ethylhexyl)phthalate	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Butyl benzyl phthalate	ND		640	µg/Kg	10	2/7/2022 10:56 PM
Caprolactam	ND		640	µg/Kg	10	2/7/2022 10:56 PM
Carbazole	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Chrysene	1,100		64	µg/Kg	10	2/7/2022 10:56 PM
Dibenzo(a,h)anthracene	120		64	µg/Kg	10	2/7/2022 10:56 PM
Dibenzofuran	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Diethyl phthalate	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Dimethyl phthalate	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Di-n-butyl phthalate	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Di-n-octyl phthalate	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Fluoranthene	2,600		64	µg/Kg	10	2/7/2022 10:56 PM
Fluorene	180		64	µg/Kg	10	2/7/2022 10:56 PM
Hexachlorobenzene	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Hexachlorobutadiene	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Hexachlorocyclopentadiene	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Hexachloroethane	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Indeno(1,2,3-cd)pyrene	670		64	µg/Kg	10	2/7/2022 10:56 PM
Isophorone	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
Naphthalene	ND		64	µg/Kg	10	2/7/2022 10:56 PM
Nitrobenzene	ND		1,600	µg/Kg	10	2/7/2022 10:56 PM
N-Nitrosodi-n-propylamine	ND		320	µg/Kg	10	2/7/2022 10:56 PM
N-Nitrosodiphenylamine	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Pentachlorophenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: SB-74 (0-1')
 Collection Date: 2/1/2022 04:00 PM

Work Order: 22020092
 Lab ID: 22020092-17
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	2,000		64	µg/Kg	10	2/7/2022 10:56 PM
Phenol	ND		320	µg/Kg	10	2/7/2022 10:56 PM
Pyrene	2,000		64	µg/Kg	10	2/7/2022 10:56 PM
Surr: 2,4,6-Tribromophenol	68.6		38-92	%REC	10	2/7/2022 10:56 PM
Surr: 2-Fluorobiphenyl	76.4		44-107	%REC	10	2/7/2022 10:56 PM
Surr: 2-Fluorophenol	69.4		37-109	%REC	10	2/7/2022 10:56 PM
Surr: 4-Terphenyl-d14	76.6		52-123	%REC	10	2/7/2022 10:56 PM
Surr: Nitrobenzene-d5	67.6		41-94	%REC	10	2/7/2022 10:56 PM
Surr: Phenol-d6	80.4		28-111	%REC	10	2/7/2022 10:56 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: JNS

1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2,4-Trimethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,3,5-Trimethylbenzene	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/2/2022 09:00 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
2-Methylnaphthalene	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Acetone	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
Benzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Bromoform	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: SB-74 (0-1')
Collection Date: 2/1/2022 04:00 PM

Work Order: 22020092
Lab ID: 22020092-17
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
Chloroform	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
Isopropylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
m,p-Xylene	ND		72	µg/Kg-dry	1	2/2/2022 09:00 PM
Methyl iodide	ND		600	µg/Kg-dry	1	2/2/2022 09:00 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/2/2022 09:00 PM
Naphthalene	ND		120	µg/Kg-dry	1	2/2/2022 09:00 PM
n-Propylbenzene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
o-Xylene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Styrene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Toluene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/2/2022 09:00 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/2/2022 09:00 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/2/2022 09:00 PM
Surr: 1,2-Dichloroethane-d4	108		70-130	%REC	1	2/2/2022 09:00 PM
Surr: 4-Bromofluorobenzene	92.4		70-130	%REC	1	2/2/2022 09:00 PM
Surr: Dibromofluoromethane	105		70-130	%REC	1	2/2/2022 09:00 PM
Surr: Toluene-d8	106		70-130	%REC	1	2/2/2022 09:00 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **13** **0.10** **% of sample** **1** **2/3/2022 02:00 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: DUP-02
 Collection Date: 2/1/2022 08:00 AM

Work Order: 22020092
 Lab ID: 22020092-18
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	ND		0.014	mg/Kg	1	2/4/2022 04:09 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	5.8		0.32	mg/Kg	1	2/3/2022 01:22 AM
Barium	53		0.32	mg/Kg	1	2/3/2022 01:22 AM
Cadmium	ND		0.13	mg/Kg	1	2/3/2022 01:22 AM
Chromium	14		0.32	mg/Kg	1	2/3/2022 01:22 AM
Copper	11		0.32	mg/Kg	1	2/3/2022 01:22 AM
Lead	7.3		0.32	mg/Kg	1	2/3/2022 01:22 AM
Selenium	ND		0.32	mg/Kg	1	2/3/2022 01:22 AM
Silver	ND		0.32	mg/Kg	1	2/3/2022 01:22 AM
Zinc	30		0.64	mg/Kg	1	2/3/2022 01:22 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		32	µg/Kg	1	2/7/2022 10:02 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/7/2022 10:02 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/7/2022 10:02 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/7/2022 10:02 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/7/2022 10:02 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/7/2022 10:02 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2-Methylnaphthalene	ND		6.5	µg/Kg	1	2/7/2022 10:02 PM
2-Methylphenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/7/2022 10:02 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/7/2022 10:02 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/7/2022 10:02 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/7/2022 10:02 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/7/2022 10:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: DUP-02
 Collection Date: 2/1/2022 08:00 AM

Work Order: 22020092
 Lab ID: 22020092-18
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/7/2022 10:02 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/7/2022 10:02 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/7/2022 10:02 PM
Acenaphthene	36		6.5	µg/Kg	1	2/7/2022 10:02 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/7/2022 10:02 PM
Acetophenone	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Anthracene	130		6.5	µg/Kg	1	2/7/2022 10:02 PM
Atrazine	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Benzaldehyde	ND		66	µg/Kg	1	2/7/2022 10:02 PM
Benzo(a)anthracene	220		6.5	µg/Kg	1	2/7/2022 10:02 PM
Benzo(a)pyrene	190		6.5	µg/Kg	1	2/7/2022 10:02 PM
Benzo(b)fluoranthene	250		6.5	µg/Kg	1	2/7/2022 10:02 PM
Benzo(g,h,i)perylene	110		6.5	µg/Kg	1	2/7/2022 10:02 PM
Benzo(k)fluoranthene	92		6.5	µg/Kg	1	2/7/2022 10:02 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/7/2022 10:02 PM
Caprolactam	ND		66	µg/Kg	1	2/7/2022 10:02 PM
Carbazole	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Chrysene	210		6.5	µg/Kg	1	2/7/2022 10:02 PM
Dibenzo(a,h)anthracene	24		6.5	µg/Kg	1	2/7/2022 10:02 PM
Dibenzofuran	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Fluoranthene	590		6.5	µg/Kg	1	2/7/2022 10:02 PM
Fluorene	62		6.5	µg/Kg	1	2/7/2022 10:02 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Hexachloroethane	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Indeno(1,2,3-cd)pyrene	130		6.5	µg/Kg	1	2/7/2022 10:02 PM
Isophorone	ND		160	µg/Kg	1	2/7/2022 10:02 PM
Naphthalene	ND		6.5	µg/Kg	1	2/7/2022 10:02 PM
Nitrobenzene	ND		160	µg/Kg	1	2/7/2022 10:02 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/7/2022 10:02 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: DUP-02
 Collection Date: 2/1/2022 08:00 AM

Work Order: 22020092
 Lab ID: 22020092-18
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	420		6.5	µg/Kg	1	2/7/2022 10:02 PM
Phenol	ND		32	µg/Kg	1	2/7/2022 10:02 PM
Pyrene	390		6.5	µg/Kg	1	2/7/2022 10:02 PM
Surr: 2,4,6-Tribromophenol	76.7		38-92	%REC	1	2/7/2022 10:02 PM
Surr: 2-Fluorobiphenyl	70.3		44-107	%REC	1	2/7/2022 10:02 PM
Surr: 2-Fluorophenol	78.4		37-109	%REC	1	2/7/2022 10:02 PM
Surr: 4-Terphenyl-d14	68.9		52-123	%REC	1	2/7/2022 10:02 PM
Surr: Nitrobenzene-d5	69.9		41-94	%REC	1	2/7/2022 10:02 PM
Surr: Phenol-d6	93.6		28-111	%REC	1	2/7/2022 10:02 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: **HJ**

1,1,1,2-Tetrachloroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1,1-Trichloroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1,2,2-Tetrachloroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1,2-Trichloroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1,2-Trichlorotrifluoroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1-Dichloroethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,1-Dichloroethene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2,3-Trichloropropane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2,4-Trichlorobenzene	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2,4-Trimethylbenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2-Dibromo-3-chloropropane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2-Dibromoethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2-Dichlorobenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2-Dichloroethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
1,2-Dichloropropane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,3,5-Trimethylbenzene	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
1,3-Dichlorobenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
1,4-Dichlorobenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
2-Butanone	ND		180	µg/Kg-dry	1	2/3/2022 08:30 PM
2-Hexanone	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
2-Methylnaphthalene	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
4-Methyl-2-pentanone	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Acetone	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
Acrylonitrile	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
Benzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Bromochloromethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Bromodichloromethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Bromoform	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Bromomethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: DUP-02
Collection Date: 2/1/2022 08:00 AM

Work Order: 22020092
Lab ID: 22020092-18
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Carbon tetrachloride	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Chlorobenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Chloroethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
Chloroform	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Chloromethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
cis-1,2-Dichloroethene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
cis-1,3-Dichloropropene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Dibromochloromethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Dibromomethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Dichlorodifluoromethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
Diethyl ether	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Ethylbenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Hexachloroethane	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
Isopropylbenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
m,p-Xylene	ND		54	µg/Kg-dry	1	2/3/2022 08:30 PM
Methyl iodide	ND		450	µg/Kg-dry	1	2/3/2022 08:30 PM
Methyl tert-butyl ether	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Methylene chloride	ND		220	µg/Kg-dry	1	2/3/2022 08:30 PM
Naphthalene	ND		89	µg/Kg-dry	1	2/3/2022 08:30 PM
n-Propylbenzene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
o-Xylene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Styrene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Tetrachloroethene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Toluene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
trans-1,2-Dichloroethene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
trans-1,3-Dichloropropene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
trans-1,4-Dichloro-2-butene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Trichloroethene	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Trichlorofluoromethane	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Vinyl acetate	ND		220	µg/Kg-dry	1	2/3/2022 08:30 PM
Vinyl chloride	ND		27	µg/Kg-dry	1	2/3/2022 08:30 PM
Xylenes, Total	ND		80	µg/Kg-dry	1	2/3/2022 08:30 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	2/3/2022 08:30 PM
Surr: 4-Bromofluorobenzene	97.4		70-130	%REC	1	2/3/2022 08:30 PM
Surr: Dibromofluoromethane	98.3		70-130	%REC	1	2/3/2022 08:30 PM
Surr: Toluene-d8	95.9		70-130	%REC	1	2/3/2022 08:30 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: DUP-03
 Collection Date: 2/1/2022 12:00 PM

Work Order: 22020092
 Lab ID: 22020092-19
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/4/22 11:29		Analyst: EJC
Mercury	0.035		0.014	mg/Kg	1	2/4/2022 04:10 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/2/22 13:16		Analyst: STP
Arsenic	2.6		0.39	mg/Kg	1	2/3/2022 01:24 AM
Barium	240		3.9	mg/Kg	10	2/3/2022 03:41 PM
Cadmium	ND		0.16	mg/Kg	1	2/3/2022 01:24 AM
Chromium	8.1		0.39	mg/Kg	1	2/3/2022 01:24 AM
Copper	14		0.39	mg/Kg	1	2/3/2022 01:24 AM
Lead	64		0.39	mg/Kg	1	2/3/2022 01:24 AM
Selenium	1.2		0.39	mg/Kg	1	2/3/2022 01:24 AM
Silver	ND		0.39	mg/Kg	1	2/3/2022 01:24 AM
Zinc	21		0.79	mg/Kg	1	2/3/2022 01:24 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/4/22 14:05		Analyst: EEW
1,1'-Biphenyl	ND		330	µg/Kg	10	2/7/2022 11:23 PM
1,2,4,5-Tetrachlorobenzene	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
1,4-Dioxane	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
2,2'-Oxybis(1-chloropropane)	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,3,4,6-Tetrachlorophenol	ND		670	µg/Kg	10	2/7/2022 11:23 PM
2,4,5-Trichlorophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,4,6-Trichlorophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,4-Dichlorophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,4-Dimethylphenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,4-Dinitrophenol	ND		6,700	µg/Kg	10	2/7/2022 11:23 PM
2,4-Dinitrotoluene	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2,6-Dinitrotoluene	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2-Chloronaphthalene	ND		67	µg/Kg	10	2/7/2022 11:23 PM
2-Chlorophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2-Methylnaphthalene	73		67	µg/Kg	10	2/7/2022 11:23 PM
2-Methylphenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2-Nitroaniline	ND		330	µg/Kg	10	2/7/2022 11:23 PM
2-Nitrophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
3&4-Methylphenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
3,3'-Dichlorobenzidine	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
3-Nitroaniline	ND		330	µg/Kg	10	2/7/2022 11:23 PM
4,6-Dinitro-2-methylphenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
4-Bromophenyl phenyl ether	ND		330	µg/Kg	10	2/7/2022 11:23 PM
4-Chloro-3-methylphenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
4-Chloroaniline	ND		670	µg/Kg	10	2/7/2022 11:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Biowales
 Sample ID: DUP-03
 Collection Date: 2/1/2022 12:00 PM

Work Order: 22020092
 Lab ID: 22020092-19
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		330	µg/Kg	10	2/7/2022 11:23 PM
4-Nitroaniline	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
4-Nitrophenol	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
Acenaphthene	200		67	µg/Kg	10	2/7/2022 11:23 PM
Acenaphthylene	ND		67	µg/Kg	10	2/7/2022 11:23 PM
Acetophenone	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Anthracene	640		67	µg/Kg	10	2/7/2022 11:23 PM
Atrazine	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Benzaldehyde	ND		670	µg/Kg	10	2/7/2022 11:23 PM
Benzo(a)anthracene	1,700		67	µg/Kg	10	2/7/2022 11:23 PM
Benzo(a)pyrene	1,500		67	µg/Kg	10	2/7/2022 11:23 PM
Benzo(b)fluoranthene	2,100		67	µg/Kg	10	2/7/2022 11:23 PM
Benzo(g,h,i)perylene	1,000		67	µg/Kg	10	2/7/2022 11:23 PM
Benzo(k)fluoranthene	770		67	µg/Kg	10	2/7/2022 11:23 PM
Bis(2-chloroethoxy)methane	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Bis(2-chloroethyl)ether	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Bis(2-ethylhexyl)phthalate	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Butyl benzyl phthalate	ND		670	µg/Kg	10	2/7/2022 11:23 PM
Caprolactam	ND		670	µg/Kg	10	2/7/2022 11:23 PM
Carbazole	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Chrysene	1,700		67	µg/Kg	10	2/7/2022 11:23 PM
Dibenzo(a,h)anthracene	210		67	µg/Kg	10	2/7/2022 11:23 PM
Dibenzofuran	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Diethyl phthalate	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Dimethyl phthalate	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Di-n-butyl phthalate	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Di-n-octyl phthalate	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Fluoranthene	4,300		67	µg/Kg	10	2/7/2022 11:23 PM
Fluorene	270		67	µg/Kg	10	2/7/2022 11:23 PM
Hexachlorobenzene	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Hexachlorobutadiene	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Hexachlorocyclopentadiene	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Hexachloroethane	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Indeno(1,2,3-cd)pyrene	1,100		67	µg/Kg	10	2/7/2022 11:23 PM
Isophorone	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
Naphthalene	140		67	µg/Kg	10	2/7/2022 11:23 PM
Nitrobenzene	ND		1,700	µg/Kg	10	2/7/2022 11:23 PM
N-Nitrosodi-n-propylamine	ND		330	µg/Kg	10	2/7/2022 11:23 PM
N-Nitrosodiphenylamine	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Pentachlorophenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: DUP-03
Collection Date: 2/1/2022 12:00 PM

Work Order: 22020092
Lab ID: 22020092-19
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	2,200		67	µg/Kg	10	2/7/2022 11:23 PM
Phenol	ND		330	µg/Kg	10	2/7/2022 11:23 PM
Pyrene	2,900		67	µg/Kg	10	2/7/2022 11:23 PM
Surr: 2,4,6-Tribromophenol	70.8		38-92	%REC	10	2/7/2022 11:23 PM
Surr: 2-Fluorobiphenyl	75.6		44-107	%REC	10	2/7/2022 11:23 PM
Surr: 2-Fluorophenol	71.2		37-109	%REC	10	2/7/2022 11:23 PM
Surr: 4-Terphenyl-d14	73.4		52-123	%REC	10	2/7/2022 11:23 PM
Surr: Nitrobenzene-d5	65.4		41-94	%REC	10	2/7/2022 11:23 PM
Surr: Phenol-d6	74.6		28-111	%REC	10	2/7/2022 11:23 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/2/22 10:37

Analyst: HJ

1,1,1,2-Tetrachloroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1,1-Trichloroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1,2,2-Tetrachloroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1,2-Trichloroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1,2-Trichlorotrifluoroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1-Dichloroethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,1-Dichloroethene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2,3-Trichloropropane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2,4-Trichlorobenzene	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2,4-Trimethylbenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2-Dibromo-3-chloropropane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2-Dibromoethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2-Dichlorobenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2-Dichloroethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
1,2-Dichloropropane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,3,5-Trimethylbenzene	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
1,3-Dichlorobenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
1,4-Dichlorobenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
2-Butanone	ND		190	µg/Kg-dry	1	2/3/2022 08:52 PM
2-Hexanone	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
2-Methylnaphthalene	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
4-Methyl-2-pentanone	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Acetone	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
Acrylonitrile	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
Benzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Bromochloromethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Bromodichloromethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Bromoform	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Bromomethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Feb-2022

Client: DLZ
Project: Coolidge Biowales
Sample ID: DUP-03
Collection Date: 2/1/2022 12:00 PM

Work Order: 22020092
Lab ID: 22020092-19
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Carbon tetrachloride	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Chlorobenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Chloroethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
Chloroform	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Chloromethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
cis-1,2-Dichloroethene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
cis-1,3-Dichloropropene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Dibromochloromethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Dibromomethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Dichlorodifluoromethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
Diethyl ether	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Ethylbenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Hexachloroethane	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
Isopropylbenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
m,p-Xylene	ND		58	µg/Kg-dry	1	2/3/2022 08:52 PM
Methyl iodide	ND		480	µg/Kg-dry	1	2/3/2022 08:52 PM
Methyl tert-butyl ether	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Methylene chloride	ND		240	µg/Kg-dry	1	2/3/2022 08:52 PM
Naphthalene	ND		96	µg/Kg-dry	1	2/3/2022 08:52 PM
n-Propylbenzene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
o-Xylene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Styrene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Tetrachloroethene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Toluene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
trans-1,2-Dichloroethene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
trans-1,3-Dichloropropene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
trans-1,4-Dichloro-2-butene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Trichloroethene	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Trichlorofluoromethane	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Vinyl acetate	ND		240	µg/Kg-dry	1	2/3/2022 08:52 PM
Vinyl chloride	ND		29	µg/Kg-dry	1	2/3/2022 08:52 PM
Xylenes, Total	ND		87	µg/Kg-dry	1	2/3/2022 08:52 PM
Surr: 1,2-Dichloroethane-d4	97.9		70-130	%REC	1	2/3/2022 08:52 PM
Surr: 4-Bromofluorobenzene	99.7		70-130	%REC	1	2/3/2022 08:52 PM
Surr: Dibromofluoromethane	91.6		70-130	%REC	1	2/3/2022 08:52 PM
Surr: Toluene-d8	97.5		70-130	%REC	1	2/3/2022 08:52 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **15** **0.10** **% of sample** **1** 2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191300 Instrument ID HG4 Method: SW7471B

MBLK		Sample ID: MBLK-191300-191300				Units: mg/Kg		Analysis Date: 2/4/2022 02:31 PM		
Client ID:		Run ID: HG4_220204A				SeqNo: 8154256		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-191300-191300				Units: mg/Kg		Analysis Date: 2/4/2022 02:33 PM		
Client ID:		Run ID: HG4_220204A				SeqNo: 8154257		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1733 0.020 0.1665 0 104 80-120 0

MS		Sample ID: 22020092-03BMS				Units: mg/Kg		Analysis Date: 2/4/2022 03:21 PM		
Client ID: SB-59 (4-5') + MS/MSD		Run ID: HG4_220204A				SeqNo: 8154284		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1869 0.018 0.1537 0.02264 107 75-125 0

MSD		Sample ID: 22020092-03BMSD				Units: mg/Kg		Analysis Date: 2/4/2022 03:22 PM		
Client ID: SB-59 (4-5') + MS/MSD		Run ID: HG4_220204A				SeqNo: 8154285		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1907 0.019 0.1549 0.02264 109 75-125 0.1869 2 35

The following samples were analyzed in this batch: 22020092-01B 22020092-03B

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191301 Instrument ID HG4 Method: SW7471B

MBLK		Sample ID: MBLK-191301-191301				Units: mg/Kg		Analysis Date: 2/4/2022 03:24 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154286		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS		Sample ID: LCS-191301-191301				Units: mg/Kg		Analysis Date: 2/4/2022 03:26 PM		
Client ID:		Run ID: HG4_220204A		SeqNo: 8154287		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1758	0.020	0.1665	0	106	80-120	0			

MS		Sample ID: 22020092-16BMS				Units: mg/Kg		Analysis Date: 2/4/2022 04:03 PM		
Client ID: SB-72 (4-5') + MS/MSD		Run ID: HG4_220204A		SeqNo: 8154308		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1809	0.019	0.1578	0.009634	109	75-125	0			

MSD		Sample ID: 22020092-16BMSD				Units: mg/Kg		Analysis Date: 2/4/2022 04:05 PM		
Client ID: SB-72 (4-5') + MS/MSD		Run ID: HG4_220204A		SeqNo: 8154309		Prep Date: 2/4/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1804	0.019	0.1588	0.009634	108	75-125	0.1809	0.244	35	

The following samples were analyzed in this batch:

22020092-02B	22020092-04B	22020092-05B
22020092-06B	22020092-07B	22020092-08B
22020092-09B	22020092-10B	22020092-11B
22020092-12B	22020092-13B	22020092-14B
22020092-15B	22020092-16B	22020092-17B
22020092-18B	22020092-19B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191203 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191203-191203				Units: mg/Kg		Analysis Date: 2/2/2022 10:41 PM		
Client ID:		Run ID: ICPMS4_220202B				SeqNo: 8149047		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-191203-191203				Units: mg/Kg		Analysis Date: 2/2/2022 10:43 PM		
Client ID:		Run ID: ICPMS4_220202B				SeqNo: 8149048		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.715	0.25	5	0	94.3	80-120	0			
Barium	5	0.25	5	0	100	80-120	0			
Cadmium	4.814	0.10	5	0	96.3	80-120	0			
Chromium	4.617	0.25	5	0	92.3	80-120	0			
Copper	4.738	0.25	5	0	94.8	80-120	0			
Lead	4.878	0.25	5	0	97.6	80-120	0			
Selenium	4.807	0.25	5	0	96.1	80-120	0			
Silver	4.481	0.25	5	0	89.6	80-120	0			
Zinc	4.716	0.50	5	0	94.3	80-120	0			

MS		Sample ID: 22020092-03BMS				Units: mg/Kg		Analysis Date: 2/2/2022 11:11 PM		
Client ID: SB-59 (4-5') + MS/MSD		Run ID: ICPMS4_220202B				SeqNo: 8149060		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.881	0.38	7.692	2.021	102	75-125	0			
Barium	117.2	0.38	7.692	85.11	417	75-125	0			SO
Cadmium	6.504	0.15	7.692	-0.006373	84.6	75-125	0			
Copper	12.98	0.38	7.692	6.855	79.7	75-125	0			
Lead	14.62	0.38	7.692	5.174	123	75-125	0			
Selenium	6.669	0.38	7.692	0.1095	85.3	75-125	0			
Silver	5.982	0.38	7.692	0.02598	77.4	75-125	0			
Zinc	39.34	0.77	7.692	30.82	111	75-125	0			O

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191203 Instrument ID ICPMS4 Method: SW6020B

MS				Sample ID: 22020092-03BMS			Units: mg/Kg		Analysis Date: 2/3/2022 03:16 PM		
Client ID: SB-59 (4-5') + MS/MSD				Run ID: ICPMS4_220203B			SeqNo: 8150688		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium	25.24	0.38	7.692	19.43	75.5	75-125		0			

MSD				Sample ID: 22020092-03BMSD			Units: mg/Kg		Analysis Date: 2/2/2022 11:13 PM		
Client ID: SB-59 (4-5') + MS/MSD				Run ID: ICPMS4_220202B			SeqNo: 8149061		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	10.23	0.39	7.849	2.021	105	75-125	9.881	3.43	20		
Barium	104.1	0.39	7.849	85.11	242	75-125	117.2	11.8	20	SO	
Cadmium	6.212	0.16	7.849	-0.006373	79.2	75-125	6.504	4.59	20		
Copper	13.05	0.39	7.849	6.855	78.9	75-125	12.98	0.496	20		
Lead	15.63	0.39	7.849	5.174	133	75-125	14.62	6.72	20	S	
Selenium	6.534	0.39	7.849	0.1095	81.9	75-125	6.669	2.04	20		
Silver	5.774	0.39	7.849	0.02598	73.2	75-125	5.982	3.53	20	S	
Zinc	39.79	0.78	7.849	30.82	114	75-125	39.34	1.14	20		

MSD				Sample ID: 22020092-03BMSD			Units: mg/Kg		Analysis Date: 2/3/2022 03:18 PM		
Client ID: SB-59 (4-5') + MS/MSD				Run ID: ICPMS4_220203B			SeqNo: 8150689		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium	24.94	0.39	7.849	19.43	70.1	75-125	25.24	1.21	20	S	

The following samples were analyzed in this batch:

22020092-01B	22020092-02B	22020092-03B
22020092-04B	22020092-05B	22020092-06B
22020092-07B	22020092-08B	22020092-09B
22020092-10B	22020092-11B	22020092-12B
22020092-13B	22020092-14B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191204 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191204-191204				Units: mg/Kg		Analysis Date: 2/3/2022 12:29 AM		
Client ID:		Run ID: ICPMS4_220202B		SeqNo: 8149092		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-191204-191204				Units: mg/Kg		Analysis Date: 2/3/2022 12:31 AM		
Client ID:		Run ID: ICPMS4_220202B		SeqNo: 8149093		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.869	0.25	5	0	97.4	80-120	0			
Barium	5.037	0.25	5	0	101	80-120	0			
Cadmium	5.066	0.10	5	0	101	80-120	0			
Chromium	5.017	0.25	5	0	100	80-120	0			
Copper	5.195	0.25	5	0	104	80-120	0			
Lead	5.034	0.25	5	0	101	80-120	0			
Selenium	4.965	0.25	5	0	99.3	80-120	0			
Silver	4.691	0.25	5	0	93.8	80-120	0			
Zinc	5.021	0.50	5	0	100	80-120	0			

MS		Sample ID: 22020092-16BMS				Units: mg/Kg		Analysis Date: 2/3/2022 01:13 AM		
Client ID: SB-72 (4-5') + MS/MSD		Run ID: ICPMS4_220202B		SeqNo: 8149110		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.66	0.37	7.342	6.555	124	75-125	0			
Barium	58.06	0.37	7.342	49.19	121	75-125	0			O
Cadmium	6.154	0.15	7.342	0.01659	83.6	75-125	0			
Chromium	21.26	0.37	7.342	13.13	111	75-125	0			
Copper	19.92	0.37	7.342	10.81	124	75-125	0			
Lead	16.07	0.37	7.342	6.838	126	75-125	0			S
Selenium	6.485	0.37	7.342	0.1923	85.7	75-125	0			
Silver	5.852	0.37	7.342	0.03114	79.3	75-125	0			
Zinc	40.15	0.73	7.342	34.18	81.4	75-125	0			O

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191204 Instrument ID ICPMS4 Method: SW6020B

MSD		Sample ID: 22020092-16BMSD				Units: mg/Kg		Analysis Date: 2/3/2022 01:16 AM		
Client ID: SB-72 (4-5') + MS/MSD		Run ID: ICPMS4_220202B		SeqNo: 8149111		Prep Date: 2/2/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.68	0.40	8.039	6.555	88.6	75-125	15.66	13.5	20	
Barium	61.3	0.40	8.039	49.19	151	75-125	58.06	5.43	20	SO
Cadmium	6.825	0.16	8.039	0.01659	84.7	75-125	6.154	10.3	20	
Chromium	22.91	0.40	8.039	13.13	122	75-125	21.26	7.48	20	
Copper	19.01	0.40	8.039	10.81	102	75-125	19.92	4.68	20	
Lead	15.58	0.40	8.039	6.838	109	75-125	16.07	3.07	20	
Selenium	7.094	0.40	8.039	0.1923	85.9	75-125	6.485	8.98	20	
Silver	6.421	0.40	8.039	0.03114	79.5	75-125	5.852	9.27	20	
Zinc	39.7	0.80	8.039	34.18	68.7	75-125	40.15	1.14	20	SO

The following samples were analyzed in this batch:

22020092-15B	22020092-16B	22020092-17B
22020092-18B	22020092-19B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-191283-191283			Units: µg/Kg		Analysis Date: 2/4/2022 04:38 PM			
Client ID:		Run ID: SVMS8_220204A			SeqNo: 8155704		Prep Date: 2/3/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	33								
1,2,4,5-Tetrachlorobenzene	ND	170								
1,4-Dioxane	ND	170								
2,2'-Oxybis(1-chloropropane)	ND	33								
2,3,4,6-Tetrachlorophenol	ND	67								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	670								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3'-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	170								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8	Method: SW846 8270D						
Butyl benzyl phthalate	ND	67						
Caprolactam	ND	67						
Carbazole	ND	33						
Chrysene	ND	6.7						
Dibenzo(a,h)anthracene	ND	6.7						
Dibenzofuran	ND	33						
Diethyl phthalate	ND	33						
Dimethyl phthalate	ND	33						
Di-n-butyl phthalate	ND	33						
Di-n-octyl phthalate	ND	33						
Fluoranthene	ND	6.7						
Fluorene	ND	6.7						
Hexachlorobenzene	ND	33						
Hexachlorobutadiene	ND	33						
Hexachlorocyclopentadiene	ND	33						
Hexachloroethane	ND	33						
Indeno(1,2,3-cd)pyrene	ND	6.7						
Isophorone	ND	170						
Naphthalene	ND	6.7						
Nitrobenzene	ND	170						
N-Nitrosodi-n-propylamine	ND	33						
N-Nitrosodiphenylamine	ND	33						
Pentachlorophenol	ND	33						
Phenanthrene	ND	6.7						
Phenol	ND	33						
Pyrene	ND	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	1991	0	3333	0	59.7	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	2849	0	3333	0	85.5	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2487	0	3333	0	74.6	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	3185	0	3333	0	95.6	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2501	0	3333	0	75	41-94	0	
<i>Surr: Phenol-d6</i>	2597	0	3333	0	77.9	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

LCS				Sample ID: SLCSS1-191283-191283		Units: µg/Kg		Analysis Date: 2/4/2022 04:58 PM		
Client ID:		Run ID: SVMS8_220204A		SeqNo: 8155705		Prep Date: 2/3/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1153	33	1333	0	86.5	53-97	0			
1,2,4,5-Tetrachlorobenzene	1115	170	1333	0	83.7	51-96	0			
2,2'-Oxybis(1-chloropropane)	1143	33	1333	0	85.7	47-107	0			
2,3,4,6-Tetrachlorophenol	1154	67	1333	0	86.6	51-110	0			
2,4,5-Trichlorophenol	1122	33	1333	0	84.2	52-111	0			
2,4,6-Trichlorophenol	1159	33	1333	0	87	46-105	0			
2,4-Dichlorophenol	1125	33	1333	0	84.4	47-96	0			
2,4-Dimethylphenol	1073	33	1333	0	80.5	49-97	0			
2,4-Dinitrophenol	908.7	670	1333	0	68.2	10-106	0			
2,4-Dinitrotoluene	1216	33	1333	0	91.2	58-110	0			
2,6-Dinitrotoluene	1183	33	1333	0	88.8	59-108	0			
2-Chloronaphthalene	1149	6.7	1333	0	86.2	56-104	0			
2-Chlorophenol	1189	33	1333	0	89.2	50-104	0			
2-Methylnaphthalene	1197	6.7	1333	0	89.8	54-96	0			
2-Methylphenol	1137	33	1333	0	85.3	49-105	0			
2-Nitroaniline	1183	33	1333	0	88.8	54-107	0			
2-Nitrophenol	1229	33	1333	0	92.2	51-94	0			
3&4-Methylphenol	1146	33	1333	0	86	48-105	0			
3,3'-Dichlorobenzidine	738.7	170	1333	0	55.4	39-99	0			
3-Nitroaniline	972	33	1333	0	72.9	17-92	0			
4,6-Dinitro-2-methylphenol	1134	33	1333	0	85.1	32-103	0			
4-Bromophenyl phenyl ether	1223	33	1333	0	91.8	60-106	0			
4-Chloro-3-methylphenol	1150	33	1333	0	86.3	51-101	0			
4-Chloroaniline	511.3	67	1333	0	38.4	27-110	0			
4-Chlorophenyl phenyl ether	1118	33	1333	0	83.9	58-106	0			
4-Nitroaniline	1093	170	1333	0	82	21-100	0			
4-Nitrophenol	1063	170	1333	0	79.8	29-120	0			
Acenaphthene	1125	6.7	1333	0	84.4	55-101	0			
Acenaphthylene	1139	6.7	1333	0	85.5	59-106	0			
Acetophenone	1133	33	1333	0	85	51-100	0			
Anthracene	1167	6.7	1333	0	87.6	67-105	0			
Atrazine	1081	33	1333	0	81.1	45-125	0			
Benzaldehyde	1129	67	1333	0	84.7	10-120	0			
Benzo(a)anthracene	1113	6.7	1333	0	83.5	68-105	0			
Benzo(a)pyrene	1150	6.7	1333	0	86.3	68-110	0			
Benzo(b)fluoranthene	1189	6.7	1333	0	89.2	65-110	0			
Benzo(g,h,i)perylene	1155	6.7	1333	0	86.6	60-120	0			
Benzo(k)fluoranthene	1233	6.7	1333	0	92.5	66-113	0			
Bis(2-chloroethoxy)methane	1168	33	1333	0	87.6	53-96	0			
Bis(2-chloroethyl)ether	1131	33	1333	0	84.9	47-108	0			
Bis(2-ethylhexyl)phthalate	1090	33	1333	0	81.8	59-117	0			
Butyl benzyl phthalate	1003	67	1333	0	75.3	59-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8		Method: SW846 8270D					
Caprolactam	1020	67	1333	0	76.5	42-105	0	
Carbazole	1121	33	1333	0	84.1	67-108	0	
Chrysene	1191	6.7	1333	0	89.4	68-108	0	
Dibenzo(a,h)anthracene	1134	6.7	1333	0	85.1	62-119	0	
Dibenzofuran	1121	33	1333	0	84.1	60-104	0	
Diethyl phthalate	1174	33	1333	0	88.1	62-111	0	
Dimethyl phthalate	1155	33	1333	0	86.6	62-106	0	
Di-n-butyl phthalate	1136	33	1333	0	85.2	59-105	0	
Di-n-octyl phthalate	1052	33	1333	0	78.9	51-123	0	
Fluoranthene	1082	6.7	1333	0	81.2	67-106	0	
Fluorene	1141	6.7	1333	0	85.6	59-107	0	
Hexachlorobenzene	1159	33	1333	0	87	62-103	0	
Hexachlorobutadiene	1159	33	1333	0	87	51-94	0	
Hexachlorocyclopentadiene	1201	33	1333	0	90.1	25-120	0	
Hexachloroethane	1135	33	1333	0	85.1	55-93	0	
Indeno(1,2,3-cd)pyrene	1159	6.7	1333	0	86.9	56-120	0	
Isophorone	1147	170	1333	0	86	52-99	0	
Naphthalene	1129	6.7	1333	0	84.7	46-98	0	
Nitrobenzene	1169	170	1333	0	87.7	53-95	0	
N-Nitrosodi-n-propylamine	1139	33	1333	0	85.4	50-104	0	
N-Nitrosodiphenylamine	1239	33	1333	0	93	63-107	0	
Pentachlorophenol	1077	33	1333	0	80.8	34-106	0	
Phenanthrene	1167	6.7	1333	0	87.6	66-101	0	
Phenol	1136	33	1333	0	85.2	44-109	0	
Pyrene	1315	6.7	1333	0	98.6	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2855	0	3333	0	85.7	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	3021	0	3333	0	90.6	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2838	0	3333	0	85.1	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	3427	0	3333	0	103	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2907	0	3333	0	87.2	41-94	0	
<i>Surr: Phenol-d6</i>	2847	0	3333	0	85.4	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MS				Sample ID: 22020092-03B MS			Units: µg/Kg		Analysis Date: 2/4/2022 05:19 PM		
Client ID: SB-59 (4-5') + MS/MSD				Run ID: SVMS8_220204A			SeqNo: 8155706		Prep Date: 2/3/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1075	33	1315	0	81.8	53-97	0				
1,2,4,5-Tetrachlorobenzene	1005	160	1315	0	76.5	51-96	0				
2,2'-Oxybis(1-chloropropane)	1064	33	1315	0	80.9	47-107	0				
2,3,4,6-Tetrachlorophenol	1278	66	1315	0	97.2	51-110	0				
2,4,5-Trichlorophenol	1098	33	1315	0	83.5	52-111	0				
2,4,6-Trichlorophenol	1124	33	1315	0	85.5	46-105	0				
2,4-Dichlorophenol	1111	33	1315	0	84.5	47-96	0				
2,4-Dimethylphenol	1142	33	1315	0	86.9	49-97	0				
2,4-Dinitrophenol	ND	660	1315	0	0	10-106	0			S	
2,4-Dinitrotoluene	1139	33	1315	0	86.6	58-110	0				
2,6-Dinitrotoluene	1036	33	1315	0	78.8	59-108	0				
2-Chloronaphthalene	979	6.6	1315	0	74.5	56-104	0				
2-Chlorophenol	1128	33	1315	0	85.8	50-104	0				
2-Methylnaphthalene	1149	6.6	1315	51.49	83.5	54-96	0				
2-Methylphenol	1116	33	1315	0	84.9	49-105	0				
2-Nitroaniline	1143	33	1315	0	86.9	54-107	0				
2-Nitrophenol	984.2	33	1315	0	74.9	51-94	0				
3&4-Methylphenol	1136	33	1315	0	86.4	48-105	0				
3,3'-Dichlorobenzidine	618	160	1315	0	47	39-99	0				
3-Nitroaniline	921.1	33	1315	0	70.1	17-92	0				
4,6-Dinitro-2-methylphenol	197.2	33	1315	0	15	32-103	0			S	
4-Bromophenyl phenyl ether	1054	33	1315	0	80.2	60-106	0				
4-Chloro-3-methylphenol	1176	33	1315	0	89.5	51-101	0				
4-Chloroaniline	844.2	66	1315	0	64.2	27-110	0				
4-Chlorophenyl phenyl ether	1039	33	1315	0	79.1	58-106	0				
4-Nitroaniline	1009	160	1315	0	76.7	21-100	0				
4-Nitrophenol	813.3	160	1315	0	61.9	29-120	0				
Acenaphthene	994.7	6.6	1315	0	75.7	55-101	0				
Acenaphthylene	1037	6.6	1315	0	78.9	59-106	0				
Acetophenone	1066	33	1315	0	81.1	51-100	0				
Anthracene	1051	6.6	1315	0	80	67-105	0				
Atrazine	1202	33	1315	0	91.4	45-125	0				
Benzaldehyde	1042	66	1315	0	79.3	10-120	0				
Benzo(a)anthracene	973	6.6	1315	0	74	68-105	0				
Benzo(a)pyrene	1043	6.6	1315	0	79.3	68-110	0				
Benzo(b)fluoranthene	1038	6.6	1315	0	79	65-110	0				
Benzo(g,h,i)perylene	805.4	6.6	1315	0	61.3	60-120	0				
Benzo(k)fluoranthene	1048	6.6	1315	0	79.7	66-113	0				
Bis(2-chloroethoxy)methane	1085	33	1315	0	82.5	53-96	0				
Bis(2-chloroethyl)ether	1103	33	1315	0	83.9	47-108	0				
Bis(2-ethylhexyl)phthalate	1152	33	1315	0	87.6	59-117	0				
Butyl benzyl phthalate	1088	66	1315	0	82.8	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8		Method: SW846 8270D						
Caprolactam	1813	66	1315	0	138	42-105	0	S	
Carbazole	1007	33	1315	0	76.6	67-108	0		
Chrysene	992.1	6.6	1315	0	75.5	68-108	0		
Dibenzo(a,h)anthracene	840.9	6.6	1315	0	64	62-119	0		
Dibenzofuran	1062	33	1315	0	80.8	60-104	0		
Diethyl phthalate	1185	33	1315	0	90.1	62-111	0		
Dimethyl phthalate	1087	33	1315	0	82.7	62-106	0		
Di-n-butyl phthalate	1160	33	1315	0	88.2	59-105	0		
Di-n-octyl phthalate	1327	33	1315	0	101	51-123	0		
Fluoranthene	1053	6.6	1315	0	80.1	67-106	0		
Fluorene	1072	6.6	1315	0	81.5	59-107	0		
Hexachlorobenzene	979	33	1315	0	74.5	62-103	0		
Hexachlorobutadiene	975	33	1315	0	74.2	51-94	0		
Hexachlorocyclopentadiene	510.8	33	1315	0	38.9	25-120	0		
Hexachloroethane	1043	33	1315	0	79.3	55-93	0		
Indeno(1,2,3-cd)pyrene	915.2	6.6	1315	0	69.6	56-120	0		
Isophorone	1156	160	1315	0	88	52-99	0		
Naphthalene	1012	6.6	1315	0	77	46-98	0		
Nitrobenzene	1014	160	1315	0	77.2	53-95	0		
N-Nitrosodi-n-propylamine	1160	33	1315	0	88.3	50-104	0		
N-Nitrosodiphenylamine	1112	33	1315	0	84.6	63-107	0		
Pentachlorophenol	1112	33	1315	0	84.6	34-106	0		
Phenanthrene	1020	6.6	1315	0	77.6	66-101	0		
Phenol	1082	33	1315	0	82.3	44-109	0		
Pyrene	1053	6.6	1315	0	80.1	60-119	0		
Surr: 2,4,6-Tribromophenol	2706	0	3287	0	82.3	38-92	0		
Surr: 2-Fluorobiphenyl	2537	0	3287	0	77.2	44-107	0		
Surr: 2-Fluorophenol	2651	0	3287	0	80.6	37-109	0		
Surr: 4-Terphenyl-d14	2784	0	3287	0	84.7	52-123	0		
Surr: Nitrobenzene-d5	2611	0	3287	0	79.4	41-94	0		
Surr: Phenol-d6	2736	0	3287	0	83.2	28-111	0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283 Instrument ID SVMS8 Method: SW846 8270D

MSD				Sample ID: 22020092-03B MSD			Units: µg/Kg		Analysis Date: 2/4/2022 05:39 PM		
Client ID: SB-59 (4-5') + MS/MSD				Run ID: SVMS8_220204A			SeqNo: 8155707		Prep Date: 2/3/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1108	33	1314	0	84.3	53-97	1075	2.99	30		
1,2,4,5-Tetrachlorobenzene	1046	160	1314	0	79.6	51-96	1005	3.95	30		
2,2'-Oxybis(1-chloropropane)	1110	33	1314	0	84.4	47-107	1064	4.22	30		
2,3,4,6-Tetrachlorophenol	1311	66	1314	0	99.8	51-110	1278	2.57	30		
2,4,5-Trichlorophenol	1181	33	1314	0	89.9	52-111	1098	7.31	30		
2,4,6-Trichlorophenol	1194	33	1314	0	90.9	46-105	1124	6.11	30		
2,4-Dichlorophenol	1171	33	1314	0	89.1	47-96	1111	5.28	30		
2,4-Dimethylphenol	1168	33	1314	0	88.9	49-97	1142	2.26	30		
2,4-Dinitrophenol	ND	660	1314	0	0	10-106	21.04	0	30	S	
2,4-Dinitrotoluene	1181	33	1314	0	89.8	58-110	1139	3.61	30		
2,6-Dinitrotoluene	1115	33	1314	0	84.9	59-108	1036	7.37	30		
2-Chloronaphthalene	1045	6.6	1314	0	79.5	56-104	979	6.54	30		
2-Chlorophenol	1187	33	1314	0	90.3	50-104	1128	5.09	30		
2-Methylnaphthalene	1207	6.6	1314	51.49	87.9	54-96	1149	4.95	30		
2-Methylphenol	1154	33	1314	0	87.8	49-105	1116	3.28	30		
2-Nitroaniline	1200	33	1314	0	91.3	54-107	1143	4.86	30		
2-Nitrophenol	1197	33	1314	0	91.1	51-94	984.2	19.5	30		
3&4-Methylphenol	1193	33	1314	0	90.8	48-105	1136	4.89	30		
3,3'-Dichlorobenzidine	608.7	160	1314	0	46.3	39-99	618	1.52	30		
3-Nitroaniline	993.2	33	1314	0	75.6	17-92	921.1	7.54	30		
4,6-Dinitro-2-methylphenol	264.2	33	1314	0	20.1	32-103	197.2	29	30	S	
4-Bromophenyl phenyl ether	1117	33	1314	0	85	60-106	1054	5.8	30		
4-Chloro-3-methylphenol	1197	33	1314	0	91.1	51-101	1176	1.75	30		
4-Chloroaniline	919	66	1314	0	69.9	27-110	844.2	8.48	30		
4-Chlorophenyl phenyl ether	1058	33	1314	0	80.5	58-106	1039	1.74	30		
4-Nitroaniline	901.2	160	1314	0	68.6	21-100	1009	11.2	30		
4-Nitrophenol	939.3	160	1314	0	71.5	29-120	813.3	14.4	30		
Acenaphthene	1029	6.6	1314	0	78.3	55-101	994.7	3.42	30		
Acenaphthylene	1083	6.6	1314	0	82.4	59-106	1037	4.32	30		
Acetophenone	1128	33	1314	0	85.8	51-100	1066	5.67	30		
Anthracene	1084	6.6	1314	0	82.5	67-105	1051	3.06	30		
Atrazine	1182	33	1314	0	89.9	45-125	1202	1.67	30		
Benzaldehyde	1115	66	1314	0	84.9	10-120	1042	6.8	30		
Benzo(a)anthracene	994.5	6.6	1314	0	75.7	68-105	973	2.19	30		
Benzo(a)pyrene	1041	6.6	1314	0	79.2	68-110	1043	0.145	30		
Benzo(b)fluoranthene	1039	6.6	1314	0	79	65-110	1038	0.0443	30		
Benzo(g,h,i)perylene	892	6.6	1314	0	67.9	60-120	805.4	10.2	30		
Benzo(k)fluoranthene	1033	6.6	1314	0	78.6	66-113	1048	1.41	30		
Bis(2-chloroethoxy)methane	1137	33	1314	0	86.5	53-96	1085	4.66	30		
Bis(2-chloroethyl)ether	1149	33	1314	0	87.4	47-108	1103	4.07	30		
Bis(2-ethylhexyl)phthalate	1169	33	1314	0	89	59-117	1152	1.51	30		
Butyl benzyl phthalate	1129	66	1314	0	85.9	59-106	1088	3.72	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191283	Instrument ID SVMS8			Method: SW846 8270D						
Caprolactam	1366	66	1314	0	104	42-105	1813	28.1	30	
Carbazole	974.2	33	1314	0	74.1	67-108	1007	3.34	30	
Chrysene	1024	6.6	1314	0	77.9	68-108	992.1	3.18	30	
Dibenzo(a,h)anthracene	913.7	6.6	1314	0	69.5	62-119	840.9	8.3	30	
Dibenzofuran	1093	33	1314	0	83.2	60-104	1062	2.91	30	
Diethyl phthalate	1201	33	1314	0	91.4	62-111	1185	1.36	30	
Dimethyl phthalate	1148	33	1314	0	87.3	62-106	1087	5.39	30	
Di-n-butyl phthalate	1159	33	1314	0	88.2	59-105	1160	0.0759	30	
Di-n-octyl phthalate	1293	33	1314	0	98.4	51-123	1327	2.63	30	
Fluoranthene	1058	6.6	1314	0	80.5	67-106	1053	0.479	30	
Fluorene	1102	6.6	1314	0	83.8	59-107	1072	2.76	30	
Hexachlorobenzene	1018	33	1314	0	77.4	62-103	979	3.87	30	
Hexachlorobutadiene	1011	33	1314	0	76.9	51-94	975	3.62	30	
Hexachlorocyclopentadiene	747.4	33	1314	0	56.9	25-120	510.8	37.6	30 R	
Hexachloroethane	1092	33	1314	0	83.1	55-93	1043	4.66	30	
Indeno(1,2,3-cd)pyrene	982.1	6.6	1314	0	74.7	56-120	915.2	7.05	30	
Isophorone	1155	160	1314	0	87.9	52-99	1156	0.134	30	
Naphthalene	1061	6.6	1314	0	80.7	46-98	1012	4.67	30	
Nitrobenzene	1091	160	1314	0	83	53-95	1014	7.29	30	
N-Nitrosodi-n-propylamine	1169	33	1314	0	89	50-104	1160	0.771	30	
N-Nitrosodiphenylamine	1140	33	1314	0	86.7	63-107	1112	2.43	30	
Pentachlorophenol	1205	33	1314	0	91.7	34-106	1112	7.98	30	
Phenanthrene	1068	6.6	1314	0	81.3	66-101	1020	4.64	30	
Phenol	1132	33	1314	0	86.1	44-109	1082	4.49	30	
Pyrene	1131	6.6	1314	0	86.1	60-119	1053	7.2	30	
<i>Surr: 2,4,6-Tribromophenol</i>	2836	0	3286	0	86.3	38-92	2706	4.68	40	
<i>Surr: 2-Fluorobiphenyl</i>	2679	0	3286	0	81.5	44-107	2537	5.43	40	
<i>Surr: 2-Fluorophenol</i>	2807	0	3286	0	85.4	37-109	2651	5.74	40	
<i>Surr: 4-Terphenyl-d14</i>	2995	0	3286	0	91.1	52-123	2784	7.33	40	
<i>Surr: Nitrobenzene-d5</i>	2738	0	3286	0	83.3	41-94	2611	4.75	40	
<i>Surr: Phenol-d6</i>	2844	0	3286	0	86.5	28-111	2736	3.87	40	

The following samples were analyzed in this batch:

22020092-01B	22020092-02B	22020092-03B
22020092-04B	22020092-05B	22020092-06B
22020092-07B	22020092-08B	22020092-09B
22020092-10B	22020092-11B	22020092-12B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314 Instrument ID SVMS10 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-191314-191314			Units: µg/Kg		Analysis Date: 2/7/2022 02:45 PM			
Client ID:		Run ID: SVMS10_220207A			SeqNo: 8159233		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	33								
1,2,4,5-Tetrachlorobenzene	ND	170								
1,4-Dioxane	ND	170								
2,2'-Oxybis(1-chloropropane)	ND	33								
2,3,4,6-Tetrachlorophenol	ND	67								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	670								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3'-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	170								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314	Instrument ID SVMS10	Method: SW846 8270D						
Butyl benzyl phthalate	ND	67						
Caprolactam	ND	67						
Carbazole	ND	33						
Chrysene	ND	6.7						
Dibenzo(a,h)anthracene	ND	6.7						
Dibenzofuran	ND	33						
Diethyl phthalate	ND	33						
Dimethyl phthalate	ND	33						
Di-n-butyl phthalate	ND	33						
Di-n-octyl phthalate	ND	33						
Fluoranthene	ND	6.7						
Fluorene	ND	6.7						
Hexachlorobenzene	ND	33						
Hexachlorobutadiene	ND	33						
Hexachlorocyclopentadiene	ND	33						
Hexachloroethane	ND	33						
Indeno(1,2,3-cd)pyrene	ND	6.7						
Isophorone	ND	170						
Naphthalene	ND	6.7						
Nitrobenzene	ND	170						
N-Nitrosodi-n-propylamine	ND	33						
N-Nitrosodiphenylamine	ND	33						
Pentachlorophenol	ND	33						
Phenanthrene	ND	6.7						
Phenol	ND	33						
Pyrene	ND	6.7						
Surr: 2,4,6-Tribromophenol	2241	0	3333	0	67.2	38-92	0	
Surr: 2-Fluorobiphenyl	2575	0	3333	0	77.3	44-107	0	
Surr: 2-Fluorophenol	2523	0	3333	0	75.7	37-109	0	
Surr: 4-Terphenyl-d14	2380	0	3333	0	71.4	52-123	0	
Surr: Nitrobenzene-d5	2311	0	3333	0	69.3	41-94	0	
Surr: Phenol-d6	2809	0	3333	0	84.3	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314 Instrument ID SVMS10 Method: SW846 8270D

LCS				Sample ID: SLCSS1-191314-191314			Units: µg/Kg		Analysis Date: 2/7/2022 03:12 PM		
Client ID:		Run ID: SVMS10_220207A		SeqNo: 8159234		Prep Date: 2/4/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1011	33	1333	0	75.9	53-97	0				
1,2,4,5-Tetrachlorobenzene	1017	170	1333	0	76.3	51-96	0				
2,2'-Oxybis(1-chloropropane)	760	33	1333	0	57	47-107	0				
2,3,4,6-Tetrachlorophenol	962	67	1333	0	72.2	51-110	0				
2,4,5-Trichlorophenol	1010	33	1333	0	75.8	52-111	0				
2,4,6-Trichlorophenol	999.3	33	1333	0	75	46-105	0				
2,4-Dichlorophenol	1049	33	1333	0	78.7	47-96	0				
2,4-Dimethylphenol	986	33	1333	0	74	49-97	0				
2,4-Dinitrophenol	722	670	1333	0	54.2	10-106	0				
2,4-Dinitrotoluene	1073	33	1333	0	80.5	58-110	0				
2,6-Dinitrotoluene	1029	33	1333	0	77.2	59-108	0				
2-Chloronaphthalene	1070	6.7	1333	0	80.3	56-104	0				
2-Chlorophenol	1009	33	1333	0	75.7	50-104	0				
2-Methylnaphthalene	1061	6.7	1333	0	79.6	54-96	0				
2-Methylphenol	979.3	33	1333	0	73.5	49-105	0				
2-Nitroaniline	848	33	1333	0	63.6	54-107	0				
2-Nitrophenol	1001	33	1333	0	75.1	51-94	0				
3&4-Methylphenol	970	33	1333	0	72.8	48-105	0				
3,3'-Dichlorobenzidine	923.3	170	1333	0	69.3	39-99	0				
3-Nitroaniline	990	33	1333	0	74.3	17-92	0				
4,6-Dinitro-2-methylphenol	938	33	1333	0	70.4	32-103	0				
4-Bromophenyl phenyl ether	1033	33	1333	0	77.5	60-106	0				
4-Chloro-3-methylphenol	1022	33	1333	0	76.7	51-101	0				
4-Chloroaniline	952	67	1333	0	71.4	27-110	0				
4-Chlorophenyl phenyl ether	1061	33	1333	0	79.6	58-106	0				
4-Nitroaniline	1028	170	1333	0	77.1	21-100	0				
4-Nitrophenol	823.3	170	1333	0	61.8	29-120	0				
Acenaphthene	1036	6.7	1333	0	77.7	55-101	0				
Acenaphthylene	1061	6.7	1333	0	79.6	59-106	0				
Acetophenone	974.7	33	1333	0	73.1	51-100	0				
Anthracene	1084	6.7	1333	0	81.3	67-105	0				
Atrazine	1098	33	1333	0	82.4	45-125	0				
Benzaldehyde	902	67	1333	0	67.7	10-120	0				
Benzo(a)anthracene	1041	6.7	1333	0	78.1	68-105	0				
Benzo(a)pyrene	1087	6.7	1333	0	81.6	68-110	0				
Benzo(b)fluoranthene	1051	6.7	1333	0	78.8	65-110	0				
Benzo(g,h,i)perylene	1183	6.7	1333	0	88.7	60-120	0				
Benzo(k)fluoranthene	1071	6.7	1333	0	80.3	66-113	0				
Bis(2-chloroethoxy)methane	995.3	33	1333	0	74.7	53-96	0				
Bis(2-chloroethyl)ether	958.7	33	1333	0	71.9	47-108	0				
Bis(2-ethylhexyl)phthalate	1017	33	1333	0	76.3	59-117	0				
Butyl benzyl phthalate	980.7	67	1333	0	73.6	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314	Instrument ID SVMS10		Method: SW846 8270D					
Caprolactam	719.3	67	1333	0	54	42-105	0	
Carbazole	1086	33	1333	0	81.5	67-108	0	
Chrysene	1097	6.7	1333	0	82.3	68-108	0	
Dibenzo(a,h)anthracene	1169	6.7	1333	0	87.7	62-119	0	
Dibenzofuran	1060	33	1333	0	79.5	60-104	0	
Diethyl phthalate	1067	33	1333	0	80	62-111	0	
Dimethyl phthalate	1046	33	1333	0	78.5	62-106	0	
Di-n-butyl phthalate	1063	33	1333	0	79.7	59-105	0	
Di-n-octyl phthalate	981.3	33	1333	0	73.6	51-123	0	
Fluoranthene	1099	6.7	1333	0	82.4	67-106	0	
Fluorene	1082	6.7	1333	0	81.2	59-107	0	
Hexachlorobenzene	1064	33	1333	0	79.8	62-103	0	
Hexachlorobutadiene	996.7	33	1333	0	74.8	51-94	0	
Hexachlorocyclopentadiene	991.3	33	1333	0	74.4	25-120	0	
Hexachloroethane	994	33	1333	0	74.6	55-93	0	
Indeno(1,2,3-cd)pyrene	1225	6.7	1333	0	91.9	56-120	0	
Isophorone	903.3	170	1333	0	67.8	52-99	0	
Naphthalene	1027	6.7	1333	0	77.1	46-98	0	
Nitrobenzene	944.7	170	1333	0	70.9	53-95	0	
N-Nitrosodi-n-propylamine	841.3	33	1333	0	63.1	50-104	0	
N-Nitrosodiphenylamine	1047	33	1333	0	78.5	63-107	0	
Pentachlorophenol	902.7	33	1333	0	67.7	34-106	0	
Phenanthrene	1079	6.7	1333	0	80.9	66-101	0	
Phenol	976.7	33	1333	0	73.3	44-109	0	
Pyrene	1023	6.7	1333	0	76.8	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2663	0	3333	0	79.9	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	2662	0	3333	0	79.9	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2515	0	3333	0	75.5	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	2502	0	3333	0	75.1	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2358	0	3333	0	70.7	41-94	0	
<i>Surr: Phenol-d6</i>	2753	0	3333	0	82.6	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314 Instrument ID SVMS10 Method: SW846 8270D

MS				Sample ID: 22020092-16B MS			Units: µg/Kg		Analysis Date: 2/7/2022 07:45 PM		
Client ID: SB-72 (4-5') + MS/MSD				Run ID: SVMS10_220207A			SeqNo: 8159235		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	881.9	31	1261	0	69.9	53-97	0				
1,2,4,5-Tetrachlorobenzene	893.9	160	1261	0	70.9	51-96	0				
2,2'-Oxybis(1-chloropropane)	713.5	31	1261	0	56.6	47-107	0				
2,3,4,6-Tetrachlorophenol	886.3	63	1261	0	70.3	51-110	0				
2,4,5-Trichlorophenol	926.1	31	1261	0	73.4	52-111	0				
2,4,6-Trichlorophenol	900.2	31	1261	0	71.4	46-105	0				
2,4-Dichlorophenol	1006	31	1261	0	79.8	47-96	0				
2,4-Dimethylphenol	1028	31	1261	0	81.5	49-97	0				
2,4-Dinitrophenol	ND	630	1261	0	0	10-106	0			S	
2,4-Dinitrotoluene	921	31	1261	0	73	58-110	0				
2,6-Dinitrotoluene	866.8	31	1261	0	68.7	59-108	0				
2-Chloronaphthalene	897.7	6.3	1261	0	71.2	56-104	0				
2-Chlorophenol	918.5	31	1261	0	72.8	50-104	0				
2-Methylnaphthalene	907.8	6.3	1261	0	72	54-96	0				
2-Methylphenol	878.1	31	1261	0	69.6	49-105	0				
2-Nitroaniline	842.2	31	1261	0	66.8	54-107	0				
2-Nitrophenol	867.4	31	1261	0	68.8	51-94	0				
3&4-Methylphenol	839.6	31	1261	0	66.6	48-105	0				
3,3'-Dichlorobenzidine	628.9	160	1261	0	49.9	39-99	0				
3-Nitroaniline	758.9	31	1261	0	60.2	17-92	0				
4,6-Dinitro-2-methylphenol	97.78	31	1261	0	7.75	32-103	0			S	
4-Bromophenyl phenyl ether	870.6	31	1261	0	69	60-106	0				
4-Chloro-3-methylphenol	942.5	31	1261	0	74.7	51-101	0				
4-Chloroaniline	490.2	63	1261	0	38.9	27-110	0				
4-Chlorophenyl phenyl ether	955.7	31	1261	0	75.8	58-106	0				
4-Nitroaniline	914.7	160	1261	0	72.5	21-100	0				
4-Nitrophenol	762.7	160	1261	0	60.5	29-120	0				
Acenaphthene	910.3	6.3	1261	0	72.2	55-101	0				
Acenaphthylene	908.4	6.3	1261	0	72	59-106	0				
Acetophenone	811.3	31	1261	0	64.3	51-100	0				
Anthracene	951.9	6.3	1261	0	75.5	67-105	0				
Atrazine	1078	31	1261	0	85.5	45-125	0				
Benzaldehyde	850.4	63	1261	0	67.4	10-120	0				
Benzo(a)anthracene	927.3	6.3	1261	0	73.5	68-105	0				
Benzo(a)pyrene	935.5	6.3	1261	0	74.2	68-110	0				
Benzo(b)fluoranthene	924.8	6.3	1261	0	73.3	65-110	0				
Benzo(g,h,i)perylene	880.6	6.3	1261	0	69.8	60-120	0				
Benzo(k)fluoranthene	949.4	6.3	1261	0	75.3	66-113	0				
Bis(2-chloroethoxy)methane	937.4	31	1261	0	74.3	53-96	0				
Bis(2-chloroethyl)ether	924.8	31	1261	0	73.3	47-108	0				
Bis(2-ethylhexyl)phthalate	958.2	31	1261	0	76	59-117	0				
Butyl benzyl phthalate	922.9	63	1261	0	73.2	59-106	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314	Instrument ID SVMS10		Method: SW846 8270D					
Caprolactam	1057	63	1261	0	83.8	42-105	0	
Carbazole	935.5	31	1261	0	74.2	67-108	0	
Chrysene	953.2	6.3	1261	0	75.6	68-108	0	
Dibenzo(a,h)anthracene	926.1	6.3	1261	0	73.4	62-119	0	
Dibenzofuran	935.5	31	1261	0	74.2	60-104	0	
Diethyl phthalate	946.3	31	1261	0	75	62-111	0	
Dimethyl phthalate	881.9	31	1261	0	69.9	62-106	0	
Di-n-butyl phthalate	976.5	31	1261	0	77.4	59-105	0	
Di-n-octyl phthalate	937.4	31	1261	0	74.3	51-123	0	
Fluoranthene	1026	6.3	1261	0.66	81.3	67-106	0	
Fluorene	982.2	6.3	1261	9.9	77.1	59-107	0	
Hexachlorobenzene	863	31	1261	0	68.4	62-103	0	
Hexachlorobutadiene	905.9	31	1261	0	71.8	51-94	0	
Hexachlorocyclopentadiene	503.4	31	1261	0	39.9	25-120	0	
Hexachloroethane	861.1	31	1261	0	68.3	55-93	0	
Indeno(1,2,3-cd)pyrene	967.7	6.3	1261	0	76.7	56-120	0	
Isophorone	947.5	160	1261	0	75.1	52-99	0	
Naphthalene	937.4	6.3	1261	0	74.3	46-98	0	
Nitrobenzene	911.6	160	1261	0	72.3	53-95	0	
N-Nitrosodi-n-propylamine	914.7	31	1261	0	72.5	50-104	0	
N-Nitrosodiphenylamine	906.5	31	1261	0	71.9	63-107	0	
Pentachlorophenol	555.1	31	1261	0	44	34-106	0	
Phenanthrene	945	6.3	1261	4.62	74.6	66-101	0	
Phenol	941.2	31	1261	0	74.6	44-109	0	
Pyrene	866.8	6.3	1261	0	68.7	60-119	0	
Surr: 2,4,6-Tribromophenol	2293	0	3154	0	72.7	38-92	0	
Surr: 2-Fluorobiphenyl	2265	0	3154	0	71.8	44-107	0	
Surr: 2-Fluorophenol	2349	0	3154	0	74.5	37-109	0	
Surr: 4-Terphenyl-d14	2113	0	3154	0	67	52-123	0	
Surr: Nitrobenzene-d5	2457	0	3154	0	77.9	41-94	0	
Surr: Phenol-d6	2530	0	3154	0	80.2	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314 Instrument ID SVMS10 Method: SW846 8270D

MSD				Sample ID: 22020092-16B MSD			Units: µg/Kg		Analysis Date: 2/7/2022 08:13 PM		
Client ID: SB-72 (4-5') + MS/MSD				Run ID: SVMS10_220207A			SeqNo: 8159236		Prep Date: 2/4/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	876.3	32	1280	0	68.5	53-97	881.9	0.635	30		
1,2,4,5-Tetrachlorobenzene	905.1	160	1280	0	70.7	51-96	893.9	1.25	30		
2,2'-Oxybis(1-chloropropane)	731	32	1280	0	57.1	47-107	713.5	2.43	30		
2,3,4,6-Tetrachlorophenol	839.2	64	1280	0	65.6	51-110	886.3	5.46	30		
2,4,5-Trichlorophenol	909.6	32	1280	0	71.1	52-111	926.1	1.79	30		
2,4,6-Trichlorophenol	950.6	32	1280	0	74.3	46-105	900.2	5.44	30		
2,4-Dichlorophenol	1017	32	1280	0	79.4	47-96	1006	1.02	30		
2,4-Dimethylphenol	1051	32	1280	0	82.1	49-97	1028	2.26	30		
2,4-Dinitrophenol	ND	640	1280	0	0	10-106	0	0	30	S	
2,4-Dinitrotoluene	900.7	32	1280	0	70.4	58-110	921	2.24	30		
2,6-Dinitrotoluene	829	32	1280	0	64.8	59-108	866.8	4.46	30		
2-Chloronaphthalene	914.7	6.4	1280	0	71.5	56-104	897.7	1.88	30		
2-Chlorophenol	955.1	32	1280	0	74.6	50-104	918.5	3.9	30		
2-Methylnaphthalene	914.1	6.4	1280	0	71.4	54-96	907.8	0.694	30		
2-Methylphenol	917.9	32	1280	0	71.7	49-105	878.1	4.43	30		
2-Nitroaniline	894.3	32	1280	0	69.9	54-107	842.2	6	30		
2-Nitrophenol	770.1	32	1280	0	60.2	51-94	867.4	11.9	30		
3&4-Methylphenol	875.7	32	1280	0	68.4	48-105	839.6	4.2	30		
3,3'-Dichlorobenzidine	626.7	160	1280	0	49	39-99	628.9	0.36	30		
3-Nitroaniline	764.3	32	1280	0	59.7	17-92	758.9	0.711	30		
4,6-Dinitro-2-methylphenol	63.37	32	1280	0	4.95	32-103	97.78	42.7	30	SR	
4-Bromophenyl phenyl ether	906.4	32	1280	0	70.8	60-106	870.6	4.04	30		
4-Chloro-3-methylphenol	912.8	32	1280	0	71.3	51-101	942.5	3.2	30		
4-Chloroaniline	501.9	64	1280	0	39.2	27-110	490.2	2.36	30		
4-Chlorophenyl phenyl ether	964	32	1280	0	75.3	58-106	955.7	0.866	30		
4-Nitroaniline	1053	160	1280	0	82.3	21-100	914.7	14.1	30		
4-Nitrophenol	744.5	160	1280	0	58.2	29-120	762.7	2.42	30		
Acenaphthene	932.7	6.4	1280	0	72.9	55-101	910.3	2.43	30		
Acenaphthylene	942.9	6.4	1280	0	73.7	59-106	908.4	3.73	30		
Acetophenone	836.6	32	1280	0	65.4	51-100	811.3	3.08	30		
Anthracene	937.8	6.4	1280	0	73.3	67-105	951.9	1.5	30		
Atrazine	1060	32	1280	0	82.8	45-125	1078	1.69	30		
Benzaldehyde	874.4	64	1280	0	68.3	10-120	850.4	2.79	30		
Benzo(a)anthracene	919.9	6.4	1280	0	71.9	68-105	927.3	0.809	30		
Benzo(a)pyrene	934.6	6.4	1280	0	73	68-110	935.5	0.101	30		
Benzo(b)fluoranthene	923.7	6.4	1280	0	72.2	65-110	924.8	0.12	30		
Benzo(g,h,i)perylene	892.3	6.4	1280	0	69.7	60-120	880.6	1.32	30		
Benzo(k)fluoranthene	944.2	6.4	1280	0	73.8	66-113	949.4	0.552	30		
Bis(2-chloroethoxy)methane	936.5	32	1280	0	73.2	53-96	937.4	0.0983	30		
Bis(2-chloroethyl)ether	957.6	32	1280	0	74.8	47-108	924.8	3.49	30		
Bis(2-ethylhexyl)phthalate	940.3	32	1280	0	73.5	59-117	958.2	1.89	30		
Butyl benzyl phthalate	914.1	64	1280	0	71.4	59-106	922.9	0.96	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191314	Instrument ID SVMS10		Method: SW846 8270D							
Caprolactam	1138	64	1280	0	88.9	42-105	1057	7.37	30	
Carbazole	957.6	32	1280	0	74.8	67-108	935.5	2.33	30	
Chrysene	970.4	6.4	1280	0	75.8	68-108	953.2	1.79	30	
Dibenzo(a,h)anthracene	932.7	6.4	1280	0	72.9	62-119	926.1	0.709	30	
Dibenzofuran	959.5	32	1280	0	75	60-104	935.5	2.53	30	
Diethyl phthalate	940.3	32	1280	0	73.5	62-111	946.3	0.627	30	
Dimethyl phthalate	894.3	32	1280	0	69.9	62-106	881.9	1.39	30	
Di-n-butyl phthalate	971.1	32	1280	0	75.9	59-105	976.5	0.561	30	
Di-n-octyl phthalate	942.9	32	1280	0	73.7	51-123	937.4	0.583	30	
Fluoranthene	1045	6.4	1280	0.66	81.6	67-106	1026	1.89	30	
Fluorene	1018	6.4	1280	9.9	78.7	59-107	982.2	3.56	30	
Hexachlorobenzene	872.5	32	1280	0	68.2	62-103	863	1.1	30	
Hexachlorobutadiene	901.9	32	1280	0	70.5	51-94	905.9	0.437	30	
Hexachlorocyclopentadiene	402	32	1280	0	31.4	25-120	503.4	22.4	30	
Hexachloroethane	873.8	32	1280	0	68.3	55-93	861.1	1.46	30	
Indeno(1,2,3-cd)pyrene	957.6	6.4	1280	0	74.8	56-120	967.7	1.05	30	
Isophorone	947.4	160	1280	0	74	52-99	947.5	0.0139	30	
Naphthalene	944.2	6.4	1280	0	73.8	46-98	937.4	0.719	30	
Nitrobenzene	898.1	160	1280	0	70.2	53-95	911.6	1.49	30	
N-Nitrosodi-n-propylamine	946.1	32	1280	0	73.9	50-104	914.7	3.37	30	
N-Nitrosodiphenylamine	922.4	32	1280	0	72.1	63-107	906.5	1.74	30	
Pentachlorophenol	476.9	32	1280	0	37.3	34-106	555.1	15.2	30	
Phenanthrene	962.7	6.4	1280	4.62	74.9	66-101	945	1.86	30	
Phenol	1007	32	1280	0	78.7	44-109	941.2	6.75	30	
Pyrene	871.2	6.4	1280	0	68.1	60-119	866.8	0.511	30	
<i>Surr: 2,4,6-Tribromophenol</i>	2313	0	3200	0	72.3	38-92	2293	0.882	40	
<i>Surr: 2-Fluorobiphenyl</i>	2241	0	3200	0	70	44-107	2265	1.05	40	
<i>Surr: 2-Fluorophenol</i>	2450	0	3200	0	76.5	37-109	2349	4.19	40	
<i>Surr: 4-Terphenyl-d14</i>	2091	0	3200	0	65.3	52-123	2113	1.08	40	
<i>Surr: Nitrobenzene-d5</i>	2409	0	3200	0	75.3	41-94	2457	1.99	40	
<i>Surr: Phenol-d6</i>	2669	0	3200	0	83.4	28-111	2530	5.35	40	

The following samples were analyzed in this batch:

22020092-13B	22020092-14B	22020092-15B
22020092-16B	22020092-17B	22020092-18B
22020092-19B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197 Instrument ID VMS11 Method: SW8260C

MBLK		Sample ID: MBLK-191197-191197			Units: µg/Kg-dry		Analysis Date: 2/4/2022 01:05 PM			
Client ID:		Run ID: VMS11_220204A			SeqNo: 8154881		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromochloromethane	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020092
Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197	Instrument ID VMS11	Method: SW8260C					
Hexachloroethane	ND	100					
Isopropylbenzene	ND	30					
m,p-Xylene	ND	60					
Methyl iodide	ND	500					
Methyl tert-butyl ether	ND	30					
Methylene chloride	ND	250					
Naphthalene	ND	100					
n-Propylbenzene	ND	30					
o-Xylene	ND	30					
Styrene	ND	30					
Tetrachloroethene	ND	30					
Toluene	ND	30					
trans-1,2-Dichloroethene	ND	30					
trans-1,3-Dichloropropene	ND	30					
trans-1,4-Dichloro-2-butene	ND	30					
Trichloroethene	ND	30					
Trichlorofluoromethane	ND	30					
Vinyl acetate	ND	250					
Vinyl chloride	ND	30					
Xylenes, Total	ND	90					
<i>Surr: 1,2-Dichloroethane-d4</i>	987	0	1000	0	98.7	70-130	0
<i>Surr: 4-Bromofluorobenzene</i>	987.5	0	1000	0	98.8	70-130	0
<i>Surr: Dibromofluoromethane</i>	950	0	1000	0	95	70-130	0
<i>Surr: Toluene-d8</i>	967.5	0	1000	0	96.8	70-130	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197 Instrument ID VMS11 Method: SW8260C

LCS		Sample ID: LCS-191197-191197			Units: µg/Kg-dry		Analysis Date: 2/4/2022 11:59 AM			
Client ID:		Run ID: VMS11_220204A			SeqNo: 8154878		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1044	30	1000	0	104	75-125	0			
1,1,1-Trichloroethane	958	30	1000	0	95.8	70-135	0			
1,1,2,2-Tetrachloroethane	992.5	30	1000	0	99.2	55-130	0			
1,1,2-Trichloroethane	996	30	1000	0	99.6	60-125	0			
1,1-Dichloroethane	944.5	30	1000	0	94.4	75-125	0			
1,1-Dichloroethene	974	30	1000	0	97.4	76-148	0			
1,2,3-Trichloropropane	950	30	1000	0	95	65-130	0			
1,2,4-Trichlorobenzene	1018	100	1000	0	102	65-130	0			
1,2,4-Trimethylbenzene	1008	30	1000	0	101	65-135	0			
1,2-Dibromo-3-chloropropane	950.5	100	1000	0	95	40-135	0			
1,2-Dibromoethane	1021	30	1000	0	102	80-195	0			
1,2-Dichlorobenzene	962.5	30	1000	0	96.2	75-120	0			
1,2-Dichloroethane	930.5	100	1000	0	93	70-135	0			
1,2-Dichloropropane	966	30	1000	0	96.6	70-120	0			
1,3,5-Trimethylbenzene	961.5	100	1000	0	96.2	65-135	0			
1,3-Dichlorobenzene	963	30	1000	0	96.3	70-125	0			
1,4-Dichlorobenzene	913.5	30	1000	0	91.4	70-125	0			
2-Butanone	1038	200	1000	0	104	30-160	0			
2-Hexanone	963.5	30	1000	0	96.4	45-145	0			
4-Methyl-2-pentanone	1249	30	1000	0	125	74-176	0			
Acetone	1258	100	1000	0	126	20-160	0			
Acrylonitrile	924	100	1000	0	92.4	70-135	0			
Benzene	959.5	30	1000	0	96	75-125	0			
Bromochloromethane	940	30	1000	0	94	74-134	0			
Bromodichloromethane	1050	30	1000	0	105	70-130	0			
Bromoform	960	30	1000	0	96	55-135	0			
Bromomethane	936.5	100	1000	0	93.6	50-170	0			
Carbon disulfide	991	30	1000	0	99.1	45-160	0			
Carbon tetrachloride	1087	30	1000	0	109	65-135	0			
Chlorobenzene	957	30	1000	0	95.7	75-125	0			
Chloroethane	783.5	100	1000	0	78.4	40-155	0			
Chloroform	966.5	30	1000	0	96.6	66-140	0			
Chloromethane	690.5	100	1000	0	69	50-144	0			
cis-1,2-Dichloroethene	959	30	1000	0	95.9	65-125	0			
cis-1,3-Dichloropropene	979	30	1000	0	97.9	70-125	0			
Dibromochloromethane	958	30	1000	0	95.8	65-135	0			
Dibromomethane	973	30	1000	0	97.3	75-130	0			
Dichlorodifluoromethane	755.5	100	1000	0	75.6	35-135	0			
Diethyl ether	980.5	30	1000	0	98	67-150	0			
Ethylbenzene	994.5	30	1000	0	99.4	75-125	0			
Hexachloroethane	1063	100	1000	0	106	51-122	0			
Isopropylbenzene	939	30	1000	0	93.9	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020092
Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197	Instrument ID VMS11		Method: SW8260C					
m,p-Xylene	2033	60	2000	0	102	80-125	0	
Methyl iodide	1132	500	1000	0	113	64-180	0	
Methyl tert-butyl ether	1023	30	1000	0	102	75-125	0	
Methylene chloride	926.5	250	1000	0	92.6	55-145	0	
Naphthalene	928.5	100	1000	0	92.8	40-140	0	
n-Propylbenzene	938	30	1000	0	93.8	65-135	0	
o-Xylene	987.5	30	1000	0	98.8	75-125	0	
Styrene	936	30	1000	0	93.6	80-138	0	
Tetrachloroethene	1043	30	1000	0	104	67-167	0	
Toluene	985	30	1000	0	98.5	70-125	0	
trans-1,2-Dichloroethene	967	30	1000	0	96.7	65-135	0	
trans-1,3-Dichloropropene	968	30	1000	0	96.8	59-129	0	
trans-1,4-Dichloro-2-butene	983	30	1000	0	98.3	62-112	0	
Trichloroethene	1030	30	1000	0	103	75-125	0	
Trichlorofluoromethane	826	30	1000	0	82.6	25-185	0	
Vinyl chloride	783.5	30	1000	0	78.4	60-125	0	
Xylenes, Total	3020	90	3000	0	101	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>969</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.9</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1015</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1012</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>988.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.8</i>	<i>70-130</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197 Instrument ID VMS11 Method: SW8260C

MS				Sample ID: 22020092-16A MS		Units: µg/Kg-dry		Analysis Date: 2/4/2022 08:00 PM		
Client ID: SB-72 (4-5') + MS/MSD			Run ID: VMS11_220204A		SeqNo: 8154919		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1047	32	1052	0	99.5	75-125	0			
1,1,1-Trichloroethane	1021	32	1052	0	97	70-135	0			
1,1,2,2-Tetrachloroethane	917.9	32	1052	0	87.2	55-130	0			
1,1,2-Trichloroethane	1009	32	1052	0	95.9	60-125	0			
1,1-Dichloroethane	1046	32	1052	0	99.4	75-125	0			
1,1-Dichloroethene	1136	32	1052	0	108	76-148	0			
1,2,3-Trichloropropane	932.6	32	1052	0	88.6	65-130	0			
1,2,4-Trichlorobenzene	3287	110	1052	0	312	65-130	0			S
1,2,4-Trimethylbenzene	1105	32	1052	0	105	65-135	0			
1,2-Dibromo-3-chloropropane	815.3	110	1052	0	77.5	40-135	0			
1,2-Dibromoethane	1029	32	1052	0	97.8	80-195	0			
1,2-Dichlorobenzene	1035	32	1052	0	98.3	75-120	0			
1,2-Dichloroethane	978.4	110	1052	0	93	70-135	0			
1,2-Dichloropropane	1032	32	1052	0	98	70-120	0			
1,3,5-Trimethylbenzene	1064	110	1052	0	101	65-135	0			
1,3-Dichlorobenzene	1146	32	1052	0	109	70-125	0			
1,4-Dichlorobenzene	1127	32	1052	0	107	70-125	0			
2-Butanone	1074	210	1052	0	102	30-160	0			
2-Hexanone	847.4	32	1052	0	80.5	45-145	0			
4-Methyl-2-pentanone	1135	32	1052	0	108	74-176	0			
Acetone	1260	110	1052	0	120	20-160	0			
Acrylonitrile	957.4	110	1052	0	91	70-135	0			
Benzene	1035	32	1052	0	98.3	75-125	0			
Bromochloromethane	1025	32	1052	0	97.4	74-134	0			
Bromodichloromethane	1072	32	1052	0	102	70-130	0			
Bromoform	950.5	32	1052	0	90.3	55-135	0			
Bromomethane	502.4	110	1052	0	47.7	50-170	0			S
Carbon disulfide	1094	32	1052	0	104	45-160	0			
Carbon tetrachloride	1155	32	1052	0	110	65-135	0			
Chlorobenzene	1038	32	1052	0	98.7	75-125	0			
Chloroethane	751.7	110	1052	0	71.4	40-155	0			
Chloroform	1071	32	1052	0	102	66-140	0			
Chloromethane	833.2	110	1052	0	79.2	50-144	0			
cis-1,2-Dichloroethene	1028	32	1052	0	97.8	65-125	0			
cis-1,3-Dichloropropene	999.4	32	1052	0	95	70-125	0			
Dibromochloromethane	918.4	32	1052	0	87.3	65-135	0			
Dibromomethane	1045	32	1052	0	99.3	75-130	0			
Dichlorodifluoromethane	1112	110	1052	0	106	35-135	0			
Diethyl ether	1028	32	1052	0	97.8	67-150	0			
Ethylbenzene	1077	32	1052	0	102	75-125	0			
Hexachloroethane	1015	110	1052	0	96.4	51-122	0			
Isopropylbenzene	1049	32	1052	0	99.8	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197	Instrument ID VMS11		Method: SW8260C					
m,p-Xylene	2208	63	2104	0	105	80-125	0	
Methyl iodide	848.5	530	1052	0	80.6	64-180	0	
Methyl tert-butyl ether	1062	32	1052	0	101	75-125	0	
Methylene chloride	1078	260	1052	0	102	55-145	0	
Naphthalene	926.3	110	1052	0	88	40-140	0	
n-Propylbenzene	1048	32	1052	15.48	98.1	65-135	0	
o-Xylene	1080	32	1052	0	103	75-125	0	
Styrene	1022	32	1052	0	97.1	80-138	0	
Tetrachloroethene	2039	32	1052	0	194	67-167	0	S
Toluene	1046	32	1052	0	99.4	70-125	0	
trans-1,2-Dichloroethene	1068	32	1052	0	102	65-135	0	
trans-1,3-Dichloropropene	884.8	32	1052	0	84.1	59-129	0	
trans-1,4-Dichloro-2-butene	891.1	32	1052	0	84.7	62-112	0	
Trichloroethene	1152	32	1052	0	109	75-125	0	
Trichlorofluoromethane	984.7	32	1052	0	93.6	25-185	0	
Vinyl chloride	972.1	32	1052	0	92.4	60-125	0	
Xylenes, Total	3288	95	3156	0	104	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1021	0	1052	0	97	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1057	0	1052	0	100	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1047	0	1052	0	99.5	70-130	0	
<i>Surr: Toluene-d8</i>	1015	0	1052	0	96.5	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197 Instrument ID VMS11 Method: SW8260C

MSD				Sample ID: 22020092-16A MSD			Units: µg/Kg-dry		Analysis Date: 2/4/2022 08:22 PM		
Client ID: SB-72 (4-5') + MS/MSD				Run ID: VMS11_220204A			SeqNo: 8154921		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1,2-Tetrachloroethane	1032	32	1058	0	97.6	75-125	1047	1.42	30		
1,1,1-Trichloroethane	1026	32	1058	0	97	70-135	1021	0.512	30		
1,1,2,2-Tetrachloroethane	883.4	32	1058	0	83.5	55-130	917.9	3.83	30		
1,1,2-Trichloroethane	1031	32	1058	0	97.4	60-125	1009	2.17	30		
1,1-Dichloroethane	1015	32	1058	0	95.9	75-125	1046	3.02	30		
1,1-Dichloroethene	1083	32	1058	0	102	76-148	1136	4.76	30		
1,2,3-Trichloropropane	991.9	32	1058	0	93.7	65-130	932.6	6.15	30		
1,2,4-Trichlorobenzene	1521	110	1058	0	144	65-130	3287	73.5	30	SR	
1,2,4-Trimethylbenzene	1077	32	1058	0	102	65-135	1105	2.53	30		
1,2-Dibromo-3-chloropropane	868.1	110	1058	0	82	40-135	815.3	6.27	30		
1,2-Dibromoethane	1055	32	1058	0	99.7	80-195	1029	2.44	30		
1,2-Dichlorobenzene	1036	32	1058	0	97.9	75-120	1035	0.104	30		
1,2-Dichloroethane	987.6	110	1058	0	93.3	70-135	978.4	0.939	30		
1,2-Dichloropropane	1003	32	1058	0	94.8	70-120	1032	2.81	30		
1,3,5-Trimethylbenzene	1056	110	1058	0	99.8	65-135	1064	0.731	30		
1,3-Dichlorobenzene	1060	32	1058	0	100	70-125	1146	7.81	30		
1,4-Dichlorobenzene	1033	32	1058	0	97.7	70-125	1127	8.67	30		
2-Butanone	1014	210	1058	0	95.8	30-160	1074	5.75	30		
2-Hexanone	890.8	32	1058	0	84.2	45-145	847.4	4.99	30		
4-Methyl-2-pentanone	1117	32	1058	0	106	74-176	1135	1.54	30		
Acetone	1184	110	1058	0	112	20-160	1260	6.22	30		
Acrylonitrile	962.2	110	1058	0	90.9	70-135	957.4	0.508	30		
Benzene	1037	32	1058	0	98.1	75-125	1035	0.258	30		
Bromochloromethane	964.9	32	1058	0	91.2	74-134	1025	6.01	30		
Bromodichloromethane	1055	32	1058	0	99.7	70-130	1072	1.62	30		
Bromoform	939	32	1058	0	88.7	55-135	950.5	1.22	30		
Bromomethane	575	110	1058	0	54.3	50-170	502.4	13.5	30		
Carbon disulfide	1033	32	1058	0	97.6	45-160	1094	5.79	30		
Carbon tetrachloride	1137	32	1058	0	108	65-135	1155	1.55	30		
Chlorobenzene	1038	32	1058	0	98.1	75-125	1038	0.0462	30		
Chloroethane	675	110	1058	0	63.8	40-155	751.7	10.8	30		
Chloroform	1037	32	1058	0	98	66-140	1071	3.24	30		
Chloromethane	805.1	110	1058	0	76.1	50-144	833.2	3.43	30		
cis-1,2-Dichloroethene	994.5	32	1058	0	94	65-125	1028	3.35	30		
cis-1,3-Dichloropropene	1006	32	1058	0	95.1	70-125	999.4	0.616	30		
Dibromochloromethane	941.1	32	1058	0	88.9	65-135	918.4	2.44	30		
Dibromomethane	1039	32	1058	0	98.2	75-130	1045	0.551	30		
Dichlorodifluoromethane	1071	110	1058	0	101	35-135	1112	3.79	30		
Diethyl ether	1063	32	1058	0	101	67-150	1028	3.34	30		
Ethylbenzene	1082	32	1058	0	102	75-125	1077	0.465	30		
Hexachloroethane	1018	110	1058	0	96.2	51-122	1015	0.355	30		
Isopropylbenzene	1035	32	1058	0	97.8	75-130	1049	1.36	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191197	Instrument ID VMS11			Method: SW8260C						
m,p-Xylene	2205	63	2116	0	104	80-125	2208	0.106	30	
Methyl iodide	979.2	530	1058	0	92.5	64-180	848.5	14.3	30	
Methyl tert-butyl ether	1056	32	1058	0	99.8	75-125	1062	0.583	30	
Methylene chloride	981.8	260	1058	0	92.8	55-145	1078	9.37	30	
Naphthalene	1025	110	1058	0	96.9	40-140	926.3	10.1	30	
n-Propylbenzene	1027	32	1058	15.48	95.6	65-135	1048	2.03	30	
o-Xylene	1055	32	1058	0	99.7	75-125	1080	2.3	30	
Styrene	1022	32	1058	0	96.6	80-138	1022	0.00391	30	
Tetrachloroethene	2068	32	1058	0	195	67-167	2039	1.41	30	S
Toluene	1048	32	1058	0	99.1	70-125	1046	0.261	30	
trans-1,2-Dichloroethene	1021	32	1058	0	96.5	65-135	1068	4.54	30	
trans-1,3-Dichloropropene	873.9	32	1058	0	82.6	59-129	884.8	1.24	30	
trans-1,4-Dichloro-2-butene	828.9	32	1058	0	78.3	62-112	891.1	7.23	30	
Trichloroethene	1248	32	1058	0	118	75-125	1152	7.99	30	
Trichlorofluoromethane	951.7	32	1058	0	89.9	25-185	984.7	3.41	30	
Vinyl chloride	935.3	32	1058	0	88.4	60-125	972.1	3.86	30	
Xylenes, Total	3261	95	3174	0	103	75-125	3288	0.822	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1011</i>	<i>0</i>	<i>1058</i>	<i>0</i>	<i>95.6</i>	<i>70-130</i>	<i>1021</i>	<i>0.994</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1067</i>	<i>0</i>	<i>1058</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>1057</i>	<i>0.961</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1032</i>	<i>0</i>	<i>1058</i>	<i>0</i>	<i>97.5</i>	<i>70-130</i>	<i>1047</i>	<i>1.52</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1006</i>	<i>0</i>	<i>1058</i>	<i>0</i>	<i>95.1</i>	<i>70-130</i>	<i>1015</i>	<i>0.951</i>	<i>30</i>	

The following samples were analyzed in this batch:

22020092-09A	22020092-10A	22020092-11A
22020092-12A	22020092-13A	22020092-14A
22020092-15A	22020092-16A	22020092-17A
22020092-18A	22020092-19A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215 Instrument ID VMS8 Method: SW8260C

MBLK		Sample ID: MBLK-191215-191215			Units: µg/Kg-dry		Analysis Date: 2/2/2022 03:03 PM			
Client ID:		Run ID: VMS8_220202A			SeqNo: 8148325		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromochloromethane	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020092
Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215	Instrument ID VMS8	Method: SW8260C						
Hexachloroethane	ND	100						
Isopropylbenzene	ND	30						
m,p-Xylene	ND	60						
Methyl iodide	ND	500						
Methyl tert-butyl ether	ND	30						
Methylene chloride	ND	250						
Naphthalene	ND	100						
n-Propylbenzene	ND	30						
o-Xylene	ND	30						
Styrene	ND	30						
Tetrachloroethene	ND	30						
Toluene	ND	30						
trans-1,2-Dichloroethene	ND	30						
trans-1,3-Dichloropropene	ND	30						
trans-1,4-Dichloro-2-butene	ND	30						
Trichloroethene	ND	30						
Trichlorofluoromethane	ND	30						
Vinyl acetate	ND	250						
Vinyl chloride	ND	30						
Xylenes, Total	ND	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	991.5	0	1000	0	99.2	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	953.5	0	1000	0	95.4	70-130	0	
<i>Surr: Dibromofluoromethane</i>	962.5	0	1000	0	96.2	70-130	0	
<i>Surr: Toluene-d8</i>	932	0	1000	0	93.2	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215 Instrument ID VMS8 Method: SW8260C

LCS		Sample ID: LCS-191215-191215			Units: µg/Kg-dry		Analysis Date: 2/2/2022 12:37 PM			
Client ID:		Run ID: VMS8_220202A			SeqNo: 8148319		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	940.5	30	1000	0	94	75-125	0			
1,1,1-Trichloroethane	935.5	30	1000	0	93.6	70-135	0			
1,1,2,2-Tetrachloroethane	1002	30	1000	0	100	55-130	0			
1,1,2-Trichloroethane	976.5	30	1000	0	97.6	60-125	0			
1,1-Dichloroethane	938.5	30	1000	0	93.8	75-125	0			
1,1-Dichloroethene	946	30	1000	0	94.6	76-148	0			
1,2,3-Trichloropropane	913.5	30	1000	0	91.4	65-130	0			
1,2,4-Trichlorobenzene	1052	100	1000	0	105	65-130	0			
1,2,4-Trimethylbenzene	975	30	1000	0	97.5	65-135	0			
1,2-Dibromo-3-chloropropane	966	100	1000	0	96.6	40-135	0			
1,2-Dibromoethane	1010	30	1000	0	101	80-195	0			
1,2-Dichlorobenzene	1081	30	1000	0	108	75-120	0			
1,2-Dichloroethane	919.5	100	1000	0	92	70-135	0			
1,2-Dichloropropane	1083	30	1000	0	108	70-120	0			
1,3,5-Trimethylbenzene	1026	100	1000	0	103	65-135	0			
1,3-Dichlorobenzene	984	30	1000	0	98.4	70-125	0			
1,4-Dichlorobenzene	1018	30	1000	0	102	70-125	0			
2-Butanone	901	200	1000	0	90.1	30-160	0			
2-Hexanone	938	30	1000	0	93.8	45-145	0			
4-Methyl-2-pentanone	859.5	30	1000	0	86	74-176	0			
Acetone	1055	100	1000	0	106	20-160	0			
Acrylonitrile	931.5	100	1000	0	93.2	70-135	0			
Benzene	921	30	1000	0	92.1	75-125	0			
Bromochloromethane	980.5	30	1000	0	98	74-134	0			
Bromodichloromethane	922.5	30	1000	0	92.2	70-130	0			
Bromoform	860.5	30	1000	0	86	55-135	0			
Bromomethane	945.5	100	1000	0	94.6	50-170	0			
Carbon disulfide	940	30	1000	0	94	45-160	0			
Carbon tetrachloride	880	30	1000	0	88	65-135	0			
Chlorobenzene	974.5	30	1000	0	97.4	75-125	0			
Chloroethane	779.5	100	1000	0	78	40-155	0			
Chloroform	960.5	30	1000	0	96	66-140	0			
Chloromethane	702	100	1000	0	70.2	50-144	0			
cis-1,2-Dichloroethene	986	30	1000	0	98.6	65-125	0			
cis-1,3-Dichloropropene	896.5	30	1000	0	89.6	70-125	0			
Dibromochloromethane	896.5	30	1000	0	89.6	65-135	0			
Dibromomethane	942	30	1000	0	94.2	75-130	0			
Dichlorodifluoromethane	929.5	100	1000	0	93	35-135	0			
Diethyl ether	1064	30	1000	0	106	67-150	0			
Ethylbenzene	1012	30	1000	0	101	75-125	0			
Hexachloroethane	978	100	1000	0	97.8	51-122	0			
Isopropylbenzene	1036	30	1000	0	104	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020092
Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215	Instrument ID VMS8		Method: SW8260C					
m,p-Xylene	2078	60	2000	0	104	80-125	0	
Methyl iodide	1254	500	1000	0	125	64-180	0	
Methyl tert-butyl ether	1026	30	1000	0	103	75-125	0	
Methylene chloride	932.5	250	1000	0	93.2	55-145	0	
Naphthalene	867.5	100	1000	0	86.8	40-140	0	
n-Propylbenzene	994	30	1000	0	99.4	65-135	0	
o-Xylene	991	30	1000	0	99.1	75-125	0	
Styrene	1030	30	1000	0	103	80-138	0	
Tetrachloroethene	1069	30	1000	0	107	67-167	0	
Toluene	947.5	30	1000	0	94.8	70-125	0	
trans-1,2-Dichloroethene	950	30	1000	0	95	65-135	0	
trans-1,3-Dichloropropene	963	30	1000	0	96.3	59-129	0	
trans-1,4-Dichloro-2-butene	881.5	30	1000	0	88.2	62-112	0	
Trichloroethene	988	30	1000	0	98.8	75-125	0	
Trichlorofluoromethane	828	30	1000	0	82.8	25-185	0	
Vinyl chloride	829.5	30	1000	0	83	60-125	0	
Xylenes, Total	3069	90	3000	0	102	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>921.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92.2</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>979</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.9</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>875.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>87.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>997.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.8</i>	<i>70-130</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215 Instrument ID VMS8 Method: SW8260C

MS				Sample ID: 22020092-03A MS		Units: µg/Kg-dry		Analysis Date: 2/2/2022 08:12 PM		
Client ID: SB-59 (4-5') + MS/MSD			Run ID: VMS8_220202A		SeqNo: 8148342		Prep Date: 2/2/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1200	34	1150	0	104	75-125	0			
1,1,1-Trichloroethane	1158	34	1150	0	101	70-135	0			
1,1,2,2-Tetrachloroethane	1792	34	1150	0	156	55-130	0			S
1,1,2-Trichloroethane	1220	34	1150	0	106	60-125	0			
1,1-Dichloroethane	976.2	34	1150	0	84.9	75-125	0			
1,1-Dichloroethene	937.2	34	1150	0	81.5	76-148	0			
1,2,3-Trichloropropane	1164	34	1150	0	101	65-130	0			
1,2,4-Trichlorobenzene	1413	110	1150	23.2	121	65-130	0			
1,2,4-Trimethylbenzene	1268	34	1150	0	110	65-135	0			
1,2-Dibromo-3-chloropropane	1060	110	1150	0	92.1	40-135	0			
1,2-Dibromoethane	1217	34	1150	0	106	80-195	0			
1,2-Dichlorobenzene	1169	34	1150	0	102	75-120	0			
1,2-Dichloroethane	1166	110	1150	0	101	70-135	0			
1,2-Dichloropropane	1175	34	1150	0	102	70-120	0			
1,3,5-Trimethylbenzene	1306	110	1150	0	114	65-135	0			
1,3-Dichlorobenzene	1209	34	1150	0	105	70-125	0			
1,4-Dichlorobenzene	1204	34	1150	0	105	70-125	0			
2-Butanone	1566	230	1150	0	136	30-160	0			
2-Hexanone	1562	34	1150	0	136	45-145	0			
4-Methyl-2-pentanone	924.5	34	1150	0	80.4	74-176	0			
Acetone	2756	110	1150	0	240	20-160	0			S
Acrylonitrile	1182	110	1150	0	103	70-135	0			
Benzene	1168	34	1150	0	102	75-125	0			
Bromochloromethane	1094	34	1150	0	95.1	74-134	0			
Bromodichloromethane	1129	34	1150	0	98.2	70-130	0			
Bromoform	1062	34	1150	0	92.3	55-135	0			
Bromomethane	726.1	110	1150	0	63.1	50-170	0			
Carbon disulfide	884.8	34	1150	0	77	45-160	0			
Carbon tetrachloride	1065	34	1150	0	92.6	65-135	0			
Chlorobenzene	1213	34	1150	0	105	75-125	0			
Chloroethane	478.9	110	1150	0	41.6	40-155	0			
Chloroform	1122	34	1150	0	97.6	66-140	0			
Chloromethane	566.3	110	1150	19.72	47.5	50-144	0			S
cis-1,2-Dichloroethene	1075	34	1150	0	93.4	65-125	0			
cis-1,3-Dichloropropene	1079	34	1150	0	93.8	70-125	0			
Dibromochloromethane	1061	34	1150	0	92.2	65-135	0			
Dibromomethane	1099	34	1150	0	95.5	75-130	0			
Dichlorodifluoromethane	861.8	110	1150	0	74.9	35-135	0			
Diethyl ether	1040	34	1150	0	90.5	67-150	0			
Ethylbenzene	1259	34	1150	0	109	75-125	0			
Hexachloroethane	1153	110	1150	0	100	51-122	0			
Isopropylbenzene	1429	34	1150	0	124	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215	Instrument ID VMS8		Method: SW8260C					
m,p-Xylene	2582	69	2300	0	112	80-125	0	
Methyl iodide	1046	570	1150	45.24	87	64-180	0	
Methyl tert-butyl ether	1241	34	1150	0	108	75-125	0	
Methylene chloride	1015	290	1150	0	88.3	55-145	0	
Naphthalene	1237	110	1150	0	108	40-140	0	
n-Propylbenzene	1477	34	1150	12.76	127	65-135	0	
o-Xylene	1260	34	1150	0	110	75-125	0	
Styrene	1313	34	1150	0	114	80-138	0	
Tetrachloroethene	2036	34	1150	0	177	67-167	0	S
Toluene	1142	34	1150	0	99.4	70-125	0	
trans-1,2-Dichloroethene	1059	34	1150	0	92.1	65-135	0	
trans-1,3-Dichloropropene	1142	34	1150	0	99.4	59-129	0	
trans-1,4-Dichloro-2-butene	1025	34	1150	0	89.2	62-112	0	
Trichloroethene	1199	34	1150	0	104	75-125	0	
Trichlorofluoromethane	708.3	34	1150	0	61.6	25-185	0	
Vinyl chloride	749.1	34	1150	0	65.2	60-125	0	
Xylenes, Total	3842	100	3450	0	111	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1158	0	1150	0	101	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1222	0	1150	0	106	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1133	0	1150	0	98.6	70-130	0	
<i>Surr: Toluene-d8</i>	1134	0	1150	0	98.7	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215 Instrument ID VMS8 Method: SW8260C

MSD		Sample ID: 22020092-03A MSD				Units: µg/Kg-dry		Analysis Date: 2/2/2022 08:30 PM		
Client ID: SB-59 (4-5') + MS/MSD		Run ID: VMS8_220202A				SeqNo: 8148343		Prep Date: 2/2/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1117	34	1121	0	99.6	75-125	1200	7.21	30	
1,1,1-Trichloroethane	1043	34	1121	0	93	70-135	1158	10.5	30	
1,1,2,2-Tetrachloroethane	1961	34	1121	0	175	55-130	1792	8.99	30	S
1,1,2-Trichloroethane	1163	34	1121	0	104	60-125	1220	4.75	30	
1,1-Dichloroethane	900.5	34	1121	0	80.3	75-125	976.2	8.07	30	
1,1-Dichloroethene	924.6	34	1121	0	82.4	76-148	937.2	1.35	30	
1,2,3-Trichloropropane	1158	34	1121	0	103	65-130	1164	0.552	30	
1,2,4-Trichlorobenzene	1343	110	1121	23.2	118	65-130	1413	5.06	30	
1,2,4-Trimethylbenzene	1199	34	1121	0	107	65-135	1268	5.64	30	
1,2-Dibromo-3-chloropropane	955.4	110	1121	0	85.2	40-135	1060	10.3	30	
1,2-Dibromoethane	1158	34	1121	0	103	80-195	1217	4.9	30	
1,2-Dichlorobenzene	1072	34	1121	0	95.6	75-120	1169	8.69	30	
1,2-Dichloroethane	1096	110	1121	0	97.7	70-135	1166	6.22	30	
1,2-Dichloropropane	1070	34	1121	0	95.4	70-120	1175	9.34	30	
1,3,5-Trimethylbenzene	1223	110	1121	0	109	65-135	1306	6.55	30	
1,3-Dichlorobenzene	1106	34	1121	0	98.6	70-125	1209	8.93	30	
1,4-Dichlorobenzene	1124	34	1121	0	100	70-125	1204	6.95	30	
2-Butanone	1383	220	1121	0	123	30-160	1566	12.4	30	
2-Hexanone	1448	34	1121	0	129	45-145	1562	7.53	30	
4-Methyl-2-pentanone	1045	34	1121	0	93.1	74-176	924.5	12.2	30	
Acetone	2745	110	1121	0	245	20-160	2756	0.403	30	S
Acrylonitrile	1049	110	1121	0	93.6	70-135	1182	11.9	30	
Benzene	1076	34	1121	0	95.9	75-125	1168	8.23	30	
Bromochloromethane	1024	34	1121	0	91.3	74-134	1094	6.58	30	
Bromodichloromethane	1037	34	1121	0	92.4	70-130	1129	8.54	30	
Bromoform	965.5	34	1121	0	86.1	55-135	1062	9.51	30	
Bromomethane	705.9	110	1121	0	62.9	50-170	726.1	2.83	30	
Carbon disulfide	879.7	34	1121	0	78.4	45-160	884.8	0.578	30	
Carbon tetrachloride	925.2	34	1121	0	82.5	65-135	1065	14.1	30	
Chlorobenzene	1128	34	1121	0	101	75-125	1213	7.26	30	
Chloroethane	455.3	110	1121	0	40.6	40-155	478.9	5.06	30	
Chloroform	1013	34	1121	0	90.3	66-140	1122	10.2	30	
Chloromethane	556.2	110	1121	19.72	47.8	50-144	566.3	1.8	30	S
cis-1,2-Dichloroethene	981.2	34	1121	0	87.5	65-125	1075	9.08	30	
cis-1,3-Dichloropropene	964.4	34	1121	0	86	70-125	1079	11.2	30	
Dibromochloromethane	968.3	34	1121	0	86.3	65-135	1061	9.11	30	
Dibromomethane	952.6	34	1121	0	84.9	75-130	1099	14.2	30	
Dichlorodifluoromethane	794.5	110	1121	0	70.8	35-135	861.8	8.13	30	
Diethyl ether	1015	34	1121	0	90.6	67-150	1040	2.4	30	
Ethylbenzene	1200	34	1121	0	107	75-125	1259	4.77	30	
Hexachloroethane	1049	110	1121	0	93.6	51-122	1153	9.47	30	
Isopropylbenzene	1447	34	1121	0	129	75-130	1429	1.2	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: 191215	Instrument ID VMS8		Method: SW8260C							
m,p-Xylene	2390	67	2243	0	107	80-125	2582	7.74	30	
Methyl iodide	1149	560	1121	45.24	98.4	64-180	1046	9.39	30	
Methyl tert-butyl ether	1158	34	1121	0	103	75-125	1241	6.86	30	
Methylene chloride	990.8	280	1121	0	88.3	55-145	1015	2.45	30	
Naphthalene	1180	110	1121	0	105	40-140	1237	4.76	30	
n-Propylbenzene	1707	34	1121	12.76	151	65-135	1477	14.4	30	S
o-Xylene	1157	34	1121	0	103	75-125	1260	8.47	30	
Styrene	1246	34	1121	0	111	80-138	1313	5.17	30	
Tetrachloroethene	1978	34	1121	0	176	67-167	2036	2.93	30	S
Toluene	1064	34	1121	0	94.9	70-125	1142	7.14	30	
trans-1,2-Dichloroethene	997.5	34	1121	0	88.9	65-135	1059	5.99	30	
trans-1,3-Dichloropropene	1068	34	1121	0	95.2	59-129	1142	6.77	30	
trans-1,4-Dichloro-2-butene	991.3	34	1121	0	88.4	62-112	1025	3.35	30	
Trichloroethene	1088	34	1121	0	97	75-125	1199	9.71	30	
Trichlorofluoromethane	711	34	1121	0	63.4	25-185	708.3	0.372	30	
Vinyl chloride	697.5	34	1121	0	62.2	60-125	749.1	7.14	30	
Xylenes, Total	3547	100	3364	0	105	75-125	3842	7.98	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1097</i>	<i>0</i>	<i>1121</i>	<i>0</i>	<i>97.9</i>	<i>70-130</i>	<i>1158</i>	<i>5.43</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1200</i>	<i>0</i>	<i>1121</i>	<i>0</i>	<i>107</i>	<i>70-130</i>	<i>1222</i>	<i>1.8</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1061</i>	<i>0</i>	<i>1121</i>	<i>0</i>	<i>94.6</i>	<i>70-130</i>	<i>1133</i>	<i>6.6</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1137</i>	<i>0</i>	<i>1121</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>1134</i>	<i>0.192</i>	<i>30</i>	

The following samples were analyzed in this batch:

22020092-01A	22020092-02A	22020092-03A
22020092-04A	22020092-05A	22020092-06A
22020092-07A	22020092-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: **R337555** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R337555				Units: % of sample		Analysis Date: 2/3/2022 12:56 PM		
Client ID:		Run ID: MOIST_220203B		SeqNo: 8151604		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.10

LCS		Sample ID: LCS-R337555				Units: % of sample		Analysis Date: 2/3/2022 12:56 PM		
Client ID:		Run ID: MOIST_220203B		SeqNo: 8151603		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.10 100 0 100 98-102 0

DUP		Sample ID: 22020050-42A DUP				Units: % of sample		Analysis Date: 2/3/2022 12:56 PM		
Client ID:		Run ID: MOIST_220203B		SeqNo: 8151585		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 4.4 0.10 0 0 0 0-0 4.51 2.47 10

DUP		Sample ID: 22020092-03B DUP				Units: % of sample		Analysis Date: 2/3/2022 12:56 PM		
Client ID: SB-59 (4-5') + MS/MSD		Run ID: MOIST_220203B		SeqNo: 8151599		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.43 0.10 0 0 0 0-0 14.46 6.49 10

The following samples were analyzed in this batch:

22020092-01B	22020092-02B	22020092-03B
22020092-04B	22020092-05B	22020092-06B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020092
 Project: Coolidge Biowales

QC BATCH REPORT

Batch ID: R337556 Instrument ID MOIST Method: SW3550C

MBLK		Sample ID: WBLKS-R337556				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151657		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R337556				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151656		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.98	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020092-07B DUP				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID: SB-63 (2-3')		Run ID: MOIST_220203C				SeqNo: 8151638		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	20.68	0.10	0	0	0	0-0	21.46	3.7	10	

DUP		Sample ID: 22020092-16B DUP				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID: SB-72 (4-5') + MS/MSD		Run ID: MOIST_220203C				SeqNo: 8151648		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.06	0.10	0	0	0	0-0	11.95	0.916	10	

The following samples were analyzed in this batch:

22020092-07B	22020092-08B	22020092-09B
22020092-10B	22020092-11B	22020092-12B
22020092-13B	22020092-14B	22020092-15B
22020092-16B	22020092-17B	22020092-18B
22020092-19B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

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COC ID: 055114

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 22020092

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Coolidge Bioswales</u>	A	<u>VOCs</u>										
Work Order		Project Number		B	<u>SUOCs</u>										
Company Name	<u>DLZ</u>	Bill To Company		C	<u>MI 10 Metals</u>										
Send Report To	<u>Dan McNeely</u>	Invoice Attn		D											
Address	<u>1425 Keystone Ave</u>	Address		E											
				F											
City/State/Zip	<u>Lansing MI 48911</u>	City/State/Zip		G											
Phone	<u>517-393-6800</u>	Phone		H											
Fax		Fax		I											
e-Mail Address	<u>dmcneely@dlz.com</u>	e-Mail Address		J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	<u>SB-57(3-4')</u>	<u>1-31-22</u>	<u>1550</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
2	<u>SB-58(4-5')</u>	<u>1-31-22</u>	<u>1615</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
3	<u>SB-59(4-5') + MS/MSD</u>	<u>2-1-22</u>	<u>0900</u>	<u>Soil</u>	<u>7.8</u>	<u>9</u>	<u>X</u>	<u>X</u>	<u>X</u>									
4	<u>SB-60(1-2')</u>	✓	<u>0920</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
5	<u>SB-61(4-5')</u>		<u>0940</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
6	<u>SB-62(3-4')</u>		<u>1000</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
7	<u>SB-63(2-3')</u>		<u>1030</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
8	<u>SB-64(1-2')</u>		<u>1050</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
9	<u>SB-65(2-3')</u>		<u>1125</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									
10	<u>SB-66(1-2')</u>		<u>1145</u>	<u>Soil</u>	<u>7.8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>									

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by: <u>[Signature]</u>	Date: <u>2-1-22</u>	Time: <u>1745</u>	Received by: <u>[Signature]</u>		Notes:						
Relinquished by: <u>[Signature]</u>	Date: <u>2/1/22</u>	Time: <u>2345</u>	Received by (Laboratory):		Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)				
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>2/2/22</u>	Time: <u>0930</u>	Checked by (Laboratory):		<u>IR1</u>	<u>3.0</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					<u>3.4</u>		<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV			
							<input type="checkbox"/> Level IV SW846/CLP				
							<input type="checkbox"/> Other _____				

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.



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+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

Page 2 of 2

COC ID: 055115

ALS Project Manager:

ALS Work Order #: 22020092

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Coolidge Bioswales</u>	A	<u>VOCs</u>										
Work Order		Project Number		B	<u>SVOCs</u>										
Company Name	<u>DLZ</u>	Bill To Company		C	<u>MI 10 Metals</u>										
Send Report To	<u>see pg 1</u>	Invoice Attn		D											
Address		Address		E											
City/State/Zip		City/State/Zip		F											
Phone		Phone		G											
Fax		Fax		H											
e-Mail Address		e-Mail Address		I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>SB-67(2-3')</u>	<u>2-1-22</u>	<u>1300</u>	<u>Soil</u>	<u>7,8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
2	<u>SB-68(3-4')</u>		<u>1315</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
3	<u>SB-69(2-3')</u>		<u>1330</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
4	<u>SB-70(2-3')</u>		<u>1400</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
5	<u>SB-71(1-2')</u>		<u>1430</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
6	<u>SB-72(4-5') + MS/MSD</u>		<u>1445</u>			<u>9</u>	<u>X</u>	<u>X</u>	<u>X</u>								
7	<u>SB-73^{dup} SB-74(0-1')</u>		<u>1600</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
8	<u>DUP-02</u>		<u>0800</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
9	<u>DUP-03</u>		<u>1200</u>			<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>								
10																	

Sampler(s) Please Print & Sign <u>Don McHenry</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 2.5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:				
Relinquished by: <u>JS</u>	Date: <u>2/1/22</u>	Time: <u>1745</u>	Received by: <u>[Signature]</u>		Notes:							
Relinquished by: <u>[Signature]</u>	Date: <u>2/1/22</u>	Time: <u>2345</u>	Received by (Laboratory): <u>[Signature]</u>		Cooler ID: <u>IR1</u>	Cooler Temp.: <u>3.0</u>	QC Package: (Check One Box Below)					
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>2/2/22</u>	Time: <u>0930</u>	Checked by (Laboratory): <u>[Signature]</u>			<u>2.4</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	<input type="checkbox"/> Level IV SW846/CLP	<input type="checkbox"/> Other
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035												

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 01-Feb-22 23:45

Work Order: 22020092

Received by: LYS

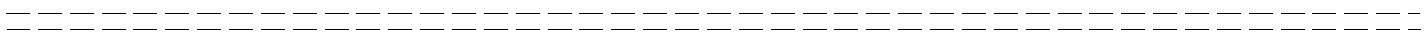
Checklist completed by Lydia Sweet 02-Feb-22
eSignature Date

Reviewed by: Julian Johnson 02-Feb-22
eSignature Date

Matrices: Soil
Carrier name: Courier

Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []
Sample(s) received on ice? Yes [checked] No []
Temperature(s)/Thermometer(s): 3.0/3.0, 2.4/2.4C IR1
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage: 2/2/2022 9:43:14 AM
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]
pH adjusted? Yes [] No [] N/A [checked]
pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments: [Text box]

CorrectiveAction: [Text box]



15-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Bioswales**

Work Order: **22020447**

Dear Dan,

ALS Environmental received 11 samples on 07-Feb-2022 11:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 68.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020447

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020447-01	SB-73 (2-3')	Soil		2/7/2022 10:15	2/7/2022 23:00	<input type="checkbox"/>
22020447-02	SB-73 (3-4')	Soil		2/7/2022 10:20	2/7/2022 23:00	<input type="checkbox"/>
22020447-03	SB-75 (3-4')	Soil		2/7/2022 10:40	2/7/2022 23:00	<input type="checkbox"/>
22020447-04	SB-76 (2-3')	Soil		2/7/2022 11:50	2/7/2022 23:00	<input type="checkbox"/>
22020447-05	SB-77 (4-5')	Soil		2/7/2022 12:30	2/7/2022 23:00	<input type="checkbox"/>
22020447-06	SB-78 (1-2')	Soil		2/7/2022 13:00	2/7/2022 23:00	<input type="checkbox"/>
22020447-07	SB-79 (4-5')	Soil		2/7/2022 15:50	2/7/2022 23:00	<input type="checkbox"/>
22020447-08	SB-80 (3-4')	Soil		2/7/2022 13:50	2/7/2022 23:00	<input type="checkbox"/>
22020447-09	SB-81 (2-3')	Soil		2/7/2022 14:15	2/7/2022 23:00	<input type="checkbox"/>
22020447-10	DUP-04	Soil		2/7/2022 08:00	2/7/2022 23:00	<input type="checkbox"/>
22020447-11	DUP-05	Soil		2/7/2022 12:00	2/7/2022 23:00	<input type="checkbox"/>

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020447

Case Narrative

Samples for the above noted Work Order were received on 2/7/22. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Method VOC_8260_S, Sample 22020447-01A: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Method VOC_8260_S, Sample 22020447-02A: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Method VOC_8260_S, Sample 22020447-03A: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Method VOC_8260_S, Sample 22020447-11A: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following non-detects are reported without qualification: 4-methyl-2-pentanone, 2-butanone, 2-hexanone

No other deviations or anomalies were noted.

Extractable Organics:

Method SVO_8270_S, Sample 22020447-01B: Surrogate high due to matrix interference.

Method SVO_8270_S, Sample 22020447-01B: The reporting limits are elevated due to internal standard failure in the undiluted run for these analytes:

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020447

Case Narrative

Method SVO_8270_S, Sample 22020447-02B: Surrogate high due to matrix interference. Nitrobenzene-d5

Method SVO_8270_S, Sample 22020447-03B: Surrogate high due to matrix interference. Nitrobenzene-d5

Method SVO_8270_S, Sample 22020447-06B: Surrogate high due to matrix interference. Nitrobenzene-d5

Method SVO_8270_S, Sample 22020447-06B MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Multiple compounds

Method SVO_8270_S, Sample 22020447-06B MSD: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Multiple compounds

Method SVO_8270_S, Sample 22020447-07B: One or more of the surrogates were below the limits due to matrix interference 2,4,6-Tribromophenol; 2-Fluorobiphenyl; 4-Terphenyl-d14; Nitrobenzene-d5

Method SVO_8270_S, Sample 22020447-08B: One or more base/neutral surrogate recoveries were below the lower control limits. The base/neutral sample results may be biased low. 2-Fluorobiphenyl; 4-Terphenyl-d14; Nitrobenzene-d5

Method SVO_8270_S, Sample 22020447-08B: One or more acid surrogate recoveries were below the lower control limits. The acidic sample results may be biased low. 2,4,6-Tribromophenol

Method SVO_8270_S, Sample 22020447-10B: One or more base/neutral surrogate recoveries were below the lower control limits. The base/neutral sample results may be biased low. 4-Terphenyl-d14

No other deviations or anomalies were noted.

Metals:

Note: The acceptability of internal standard recoveries has been reviewed for each sample by the analyst. All recoveries were found to be within the method specified criteria of > 70%, unless otherwise noted in this report.

No other deviations or anomalies were noted.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg	Milligrams per Kilogram

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-73 (2-3')
 Collection Date: 2/7/2022 10:15 AM

Work Order: 22020447
 Lab ID: 22020447-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.023		0.019	mg/Kg	1	2/11/2022 12:03 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	5.3		0.35	mg/Kg	1	2/9/2022 08:15 PM
Barium	76		0.35	mg/Kg	1	2/9/2022 08:15 PM
Cadmium	ND		0.14	mg/Kg	1	2/9/2022 08:15 PM
Chromium	3.5		0.35	mg/Kg	1	2/9/2022 08:15 PM
Copper	12		0.35	mg/Kg	1	2/9/2022 08:15 PM
Lead	9.4		0.35	mg/Kg	1	2/9/2022 08:15 PM
Selenium	0.74		0.35	mg/Kg	1	2/9/2022 08:15 PM
Silver	ND		0.35	mg/Kg	1	2/9/2022 08:15 PM
Zinc	7.6		0.70	mg/Kg	1	2/9/2022 08:15 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EE
1,1'-Biphenyl	5,900		4,500	µg/Kg	20	2/11/2022 12:37 PM
1,2,4,5-Tetrachlorobenzene	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
1,4-Dioxane	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
2,2'-Oxybis(1-chloropropane)	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,3,4,6-Tetrachlorophenol	ND		9,100	µg/Kg	20	2/11/2022 12:37 PM
2,4,5-Trichlorophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,4,6-Trichlorophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,4-Dichlorophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,4-Dimethylphenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,4-Dinitrophenol	ND		90,000	µg/Kg	20	2/11/2022 12:37 PM
2,4-Dinitrotoluene	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2,6-Dinitrotoluene	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2-Chloronaphthalene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
2-Chlorophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2-Methylnaphthalene	91,000		900	µg/Kg	20	2/11/2022 12:37 PM
2-Methylphenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2-Nitroaniline	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
2-Nitrophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
3&4-Methylphenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
3,3'-Dichlorobenzidine	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
3-Nitroaniline	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
4,6-Dinitro-2-methylphenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
4-Bromophenyl phenyl ether	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
4-Chloro-3-methylphenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
4-Chloroaniline	ND		9,100	µg/Kg	20	2/11/2022 12:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-73 (2-3')
Collection Date: 2/7/2022 10:15 AM

Work Order: 22020447
Lab ID: 22020447-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
4-Nitroaniline	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
4-Nitrophenol	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
Acenaphthene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Acenaphthylene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Acetophenone	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Anthracene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Atrazine	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Benzaldehyde	ND		9,100	µg/Kg	20	2/11/2022 12:37 PM
Benzo(a)anthracene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Benzo(a)pyrene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Benzo(b)fluoranthene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Benzo(g,h,i)perylene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Benzo(k)fluoranthene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Bis(2-chloroethoxy)methane	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Bis(2-chloroethyl)ether	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Bis(2-ethylhexyl)phthalate	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Butyl benzyl phthalate	ND		9,100	µg/Kg	20	2/11/2022 12:37 PM
Caprolactam	ND		9,100	µg/Kg	20	2/11/2022 12:37 PM
Carbazole	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Chrysene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Dibenzo(a,h)anthracene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Dibenzofuran	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Diethyl phthalate	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Dimethyl phthalate	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Di-n-butyl phthalate	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Di-n-octyl phthalate	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Fluoranthene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Fluorene	3,800		900	µg/Kg	20	2/11/2022 12:37 PM
Hexachlorobenzene	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Hexachlorobutadiene	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Hexachlorocyclopentadiene	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Hexachloroethane	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Indeno(1,2,3-cd)pyrene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Isophorone	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
Naphthalene	40,000		900	µg/Kg	20	2/11/2022 12:37 PM
Nitrobenzene	ND		23,000	µg/Kg	20	2/11/2022 12:37 PM
N-Nitrosodi-n-propylamine	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
N-Nitrosodiphenylamine	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Pentachlorophenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-73 (2-3')
 Collection Date: 2/7/2022 10:15 AM

Work Order: 22020447
 Lab ID: 22020447-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	2,500		900	µg/Kg	20	2/11/2022 12:37 PM
Phenol	ND		4,500	µg/Kg	20	2/11/2022 12:37 PM
Pyrene	ND		900	µg/Kg	20	2/11/2022 12:37 PM
Surr: 2,4,6-Tribromophenol	64.0		38-92	%REC	20	2/11/2022 12:37 PM
Surr: 2-Fluorobiphenyl	75.6		44-107	%REC	20	2/11/2022 12:37 PM
Surr: 2-Fluorophenol	59.6		37-109	%REC	20	2/11/2022 12:37 PM
Surr: 4-Terphenyl-d14	80.0		52-123	%REC	20	2/11/2022 12:37 PM
Surr: Nitrobenzene-d5	106	S	41-94	%REC	20	2/11/2022 12:37 PM
Surr: Phenol-d6	68.0		28-111	%REC	20	2/11/2022 12:37 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01		Analyst: MF
1,1,1,2-Tetrachloroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1,1-Trichloroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1,2,2-Tetrachloroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1,2-Trichloroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1,2-Trichlorotrifluoroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1-Dichloroethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,1-Dichloroethene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2,3-Trichloropropane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2,4-Trichlorobenzene	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2,4-Trimethylbenzene	53,000		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2-Dibromo-3-chloropropane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2-Dibromoethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2-Dichlorobenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2-Dichloroethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
1,2-Dichloropropane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,3,5-Trimethylbenzene	17,000		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
1,3-Dichlorobenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
1,4-Dichlorobenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
2-Butanone	ND		29,000	µg/Kg-dry	100	2/8/2022 05:18 PM
2-Hexanone	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
2-Methylnaphthalene	190,000		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
4-Methyl-2-pentanone	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Acetone	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Acrylonitrile	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Benzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Bromochloromethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Bromodichloromethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Bromoform	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Bromomethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-73 (2-3')
Collection Date: 2/7/2022 10:15 AM

Work Order: 22020447
Lab ID: 22020447-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Carbon tetrachloride	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Chlorobenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Chloroethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Chloroform	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Chloromethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
cis-1,2-Dichloroethene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
cis-1,3-Dichloropropene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Dibromochloromethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Dibromomethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Dichlorodifluoromethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Diethyl ether	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Ethylbenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Hexachloroethane	ND		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Isopropylbenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
m,p-Xylene	ND		8,600	µg/Kg-dry	100	2/8/2022 05:18 PM
Methyl iodide	ND		72,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Methyl tert-butyl ether	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Methylene chloride	ND		36,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Naphthalene	32,000		14,000	µg/Kg-dry	100	2/8/2022 05:18 PM
n-Propylbenzene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
o-Xylene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Styrene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Tetrachloroethene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Toluene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
trans-1,2-Dichloroethene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
trans-1,3-Dichloropropene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
trans-1,4-Dichloro-2-butene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Trichloroethene	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Trichlorofluoromethane	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Vinyl acetate	ND		36,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Vinyl chloride	ND		4,300	µg/Kg-dry	100	2/8/2022 05:18 PM
Xylenes, Total	ND		13,000	µg/Kg-dry	100	2/8/2022 05:18 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	100	2/8/2022 05:18 PM
Surr: 4-Bromofluorobenzene	93.6		70-130	%REC	100	2/8/2022 05:18 PM
Surr: Dibromofluoromethane	101		70-130	%REC	100	2/8/2022 05:18 PM
Surr: Toluene-d8	105		70-130	%REC	100	2/8/2022 05:18 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **19** **0.10** **% of sample** **1** 2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-73 (3-4')
 Collection Date: 2/7/2022 10:20 AM

Work Order: 22020447
 Lab ID: 22020447-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	ND		0.018	mg/Kg	1	2/11/2022 12:04 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	2.3		0.38	mg/Kg	1	2/9/2022 08:17 PM
Barium	16		0.38	mg/Kg	1	2/9/2022 08:17 PM
Cadmium	ND		0.15	mg/Kg	1	2/9/2022 08:17 PM
Chromium	4.3		0.38	mg/Kg	1	2/9/2022 08:17 PM
Copper	2.5		0.38	mg/Kg	1	2/9/2022 08:17 PM
Lead	2.5		0.38	mg/Kg	1	2/9/2022 08:17 PM
Selenium	ND		0.38	mg/Kg	1	2/9/2022 08:17 PM
Silver	ND		0.38	mg/Kg	1	2/9/2022 08:17 PM
Zinc	8.4		0.76	mg/Kg	1	2/9/2022 08:17 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		240	µg/Kg	1	2/10/2022 08:05 PM
1,2,4,5-Tetrachlorobenzene	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
1,4-Dioxane	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
2,2'-Oxybis(1-chloropropane)	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,3,4,6-Tetrachlorophenol	ND		480	µg/Kg	1	2/10/2022 08:05 PM
2,4,5-Trichlorophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,4,6-Trichlorophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,4-Dichlorophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,4-Dimethylphenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,4-Dinitrophenol	ND		4,800	µg/Kg	1	2/10/2022 08:05 PM
2,4-Dinitrotoluene	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2,6-Dinitrotoluene	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2-Chloronaphthalene	ND		48	µg/Kg	1	2/10/2022 08:05 PM
2-Chlorophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2-Methylnaphthalene	55,000		950	µg/Kg	20	2/14/2022 03:35 PM
2-Methylphenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2-Nitroaniline	ND		240	µg/Kg	1	2/10/2022 08:05 PM
2-Nitrophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
3&4-Methylphenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
3,3'-Dichlorobenzidine	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
3-Nitroaniline	ND		240	µg/Kg	1	2/10/2022 08:05 PM
4,6-Dinitro-2-methylphenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
4-Bromophenyl phenyl ether	ND		240	µg/Kg	1	2/10/2022 08:05 PM
4-Chloro-3-methylphenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
4-Chloroaniline	ND		480	µg/Kg	1	2/10/2022 08:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-73 (3-4')
 Collection Date: 2/7/2022 10:20 AM

Work Order: 22020447
 Lab ID: 22020447-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		240	µg/Kg	1	2/10/2022 08:05 PM
4-Nitroaniline	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
4-Nitrophenol	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
Acenaphthene	ND		48	µg/Kg	1	2/10/2022 08:05 PM
Acenaphthylene	ND		48	µg/Kg	1	2/10/2022 08:05 PM
Acetophenone	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Anthracene	62		48	µg/Kg	1	2/10/2022 08:05 PM
Atrazine	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Benzaldehyde	ND		480	µg/Kg	1	2/10/2022 08:05 PM
Benzo(a)anthracene	120		48	µg/Kg	1	2/10/2022 08:05 PM
Benzo(a)pyrene	86		48	µg/Kg	1	2/10/2022 08:05 PM
Benzo(b)fluoranthene	120		48	µg/Kg	1	2/10/2022 08:05 PM
Benzo(g,h,i)perylene	52		48	µg/Kg	1	2/10/2022 08:05 PM
Benzo(k)fluoranthene	52		48	µg/Kg	1	2/10/2022 08:05 PM
Bis(2-chloroethoxy)methane	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Bis(2-chloroethyl)ether	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Bis(2-ethylhexyl)phthalate	410		240	µg/Kg	1	2/10/2022 08:05 PM
Butyl benzyl phthalate	ND		480	µg/Kg	1	2/10/2022 08:05 PM
Caprolactam	ND		480	µg/Kg	1	2/10/2022 08:05 PM
Carbazole	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Chrysene	76		48	µg/Kg	1	2/10/2022 08:05 PM
Dibenzo(a,h)anthracene	ND		48	µg/Kg	1	2/10/2022 08:05 PM
Dibenzofuran	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Diethyl phthalate	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Dimethyl phthalate	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Di-n-butyl phthalate	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Di-n-octyl phthalate	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Fluoranthene	230		48	µg/Kg	1	2/10/2022 08:05 PM
Fluorene	1,500		48	µg/Kg	1	2/10/2022 08:05 PM
Hexachlorobenzene	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Hexachlorobutadiene	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Hexachlorocyclopentadiene	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Hexachloroethane	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Indeno(1,2,3-cd)pyrene	76		48	µg/Kg	1	2/10/2022 08:05 PM
Isophorone	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
Naphthalene	16,000		48	µg/Kg	1	2/10/2022 08:05 PM
Nitrobenzene	ND		1,200	µg/Kg	1	2/10/2022 08:05 PM
N-Nitrosodi-n-propylamine	ND		240	µg/Kg	1	2/10/2022 08:05 PM
N-Nitrosodiphenylamine	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Pentachlorophenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-73 (3-4')
 Collection Date: 2/7/2022 10:20 AM

Work Order: 22020447
 Lab ID: 22020447-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	720		48	µg/Kg	1	2/10/2022 08:05 PM
Phenol	ND		240	µg/Kg	1	2/10/2022 08:05 PM
Pyrene	220		48	µg/Kg	1	2/10/2022 08:05 PM
Surr: 2,4,6-Tribromophenol	77.1		38-92	%REC	1	2/10/2022 08:05 PM
Surr: 2-Fluorobiphenyl	75.0		44-107	%REC	1	2/10/2022 08:05 PM
Surr: 2-Fluorophenol	105		37-109	%REC	1	2/10/2022 08:05 PM
Surr: 4-Terphenyl-d14	81.5		52-123	%REC	1	2/10/2022 08:05 PM
Surr: Nitrobenzene-d5	129	S	41-94	%REC	1	2/10/2022 08:05 PM
Surr: Phenol-d6	111		28-111	%REC	1	2/10/2022 08:05 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1,1-Trichloroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1,2,2-Tetrachloroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1,2-Trichloroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1,2-Trichlorotrifluoroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1-Dichloroethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,1-Dichloroethene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2,3-Trichloropropane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2,4-Trichlorobenzene	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2,4-Trimethylbenzene	23,000		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2-Dibromo-3-chloropropane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2-Dibromoethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2-Dichlorobenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2-Dichloroethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
1,2-Dichloropropane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,3,5-Trimethylbenzene	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
1,3-Dichlorobenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
1,4-Dichlorobenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
2-Butanone	ND		18,000	µg/Kg-dry	100	2/8/2022 05:36 PM
2-Hexanone	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
2-Methylnaphthalene	86,000		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
4-Methyl-2-pentanone	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Acetone	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
Acrylonitrile	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
Benzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Bromochloromethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Bromodichloromethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Bromoform	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Bromomethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-73 (3-4')
Collection Date: 2/7/2022 10:20 AM

Work Order: 22020447
Lab ID: 22020447-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Carbon tetrachloride	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Chlorobenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Chloroethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
Chloroform	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Chloromethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
cis-1,2-Dichloroethene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
cis-1,3-Dichloropropene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Dibromochloromethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Dibromomethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Dichlorodifluoromethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
Diethyl ether	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Ethylbenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Hexachloroethane	ND		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
Isopropylbenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
m,p-Xylene	ND		5,400	µg/Kg-dry	100	2/8/2022 05:36 PM
Methyl iodide	ND		45,000	µg/Kg-dry	100	2/8/2022 05:36 PM
Methyl tert-butyl ether	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Methylene chloride	ND		23,000	µg/Kg-dry	100	2/8/2022 05:36 PM
Naphthalene	15,000		9,100	µg/Kg-dry	100	2/8/2022 05:36 PM
n-Propylbenzene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
o-Xylene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Styrene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Tetrachloroethene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Toluene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
trans-1,2-Dichloroethene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
trans-1,3-Dichloropropene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
trans-1,4-Dichloro-2-butene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Trichloroethene	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Trichlorofluoromethane	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Vinyl acetate	ND		23,000	µg/Kg-dry	100	2/8/2022 05:36 PM
Vinyl chloride	ND		2,700	µg/Kg-dry	100	2/8/2022 05:36 PM
Xylenes, Total	ND		8,200	µg/Kg-dry	100	2/8/2022 05:36 PM
Surr: 1,2-Dichloroethane-d4	99.7		70-130	%REC	100	2/8/2022 05:36 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	100	2/8/2022 05:36 PM
Surr: Dibromofluoromethane	104		70-130	%REC	100	2/8/2022 05:36 PM
Surr: Toluene-d8	113		70-130	%REC	100	2/8/2022 05:36 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **16** **0.10** **% of sample** **1** **2/10/2022 12:41 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-75 (3-4')
 Collection Date: 2/7/2022 10:40 AM

Work Order: 22020447
 Lab ID: 22020447-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.025		0.019	mg/Kg	1	2/11/2022 12:11 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	4.4		0.34	mg/Kg	1	2/9/2022 08:19 PM
Barium	39		0.34	mg/Kg	1	2/9/2022 08:19 PM
Cadmium	0.28		0.14	mg/Kg	1	2/9/2022 08:19 PM
Chromium	7.1		0.34	mg/Kg	1	2/9/2022 08:19 PM
Copper	61		3.4	mg/Kg	10	2/10/2022 01:24 PM
Lead	110		0.34	mg/Kg	1	2/9/2022 08:19 PM
Selenium	0.63		0.34	mg/Kg	1	2/9/2022 08:19 PM
Silver	ND		0.34	mg/Kg	1	2/9/2022 08:19 PM
Zinc	42		6.8	mg/Kg	10	2/10/2022 01:24 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		200	µg/Kg	1	2/10/2022 08:25 PM
1,2,4,5-Tetrachlorobenzene	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
1,4-Dioxane	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
2,2'-Oxybis(1-chloropropane)	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,3,4,6-Tetrachlorophenol	ND		410	µg/Kg	1	2/10/2022 08:25 PM
2,4,5-Trichlorophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,4,6-Trichlorophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,4-Dichlorophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,4-Dimethylphenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,4-Dinitrophenol	ND		4,100	µg/Kg	1	2/10/2022 08:25 PM
2,4-Dinitrotoluene	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2,6-Dinitrotoluene	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2-Chloronaphthalene	ND		41	µg/Kg	1	2/10/2022 08:25 PM
2-Chlorophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2-Methylnaphthalene	12,000		41	µg/Kg	1	2/10/2022 08:25 PM
2-Methylphenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2-Nitroaniline	ND		200	µg/Kg	1	2/10/2022 08:25 PM
2-Nitrophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
3&4-Methylphenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
3,3'-Dichlorobenzidine	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
3-Nitroaniline	ND		200	µg/Kg	1	2/10/2022 08:25 PM
4,6-Dinitro-2-methylphenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
4-Bromophenyl phenyl ether	ND		200	µg/Kg	1	2/10/2022 08:25 PM
4-Chloro-3-methylphenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
4-Chloroaniline	ND		410	µg/Kg	1	2/10/2022 08:25 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-75 (3-4')
 Collection Date: 2/7/2022 10:40 AM

Work Order: 22020447
 Lab ID: 22020447-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		200	µg/Kg	1	2/10/2022 08:25 PM
4-Nitroaniline	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
4-Nitrophenol	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
Acenaphthene	ND		41	µg/Kg	1	2/10/2022 08:25 PM
Acenaphthylene	ND		41	µg/Kg	1	2/10/2022 08:25 PM
Acetophenone	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Anthracene	740		41	µg/Kg	1	2/10/2022 08:25 PM
Atrazine	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Benzaldehyde	ND		410	µg/Kg	1	2/10/2022 08:25 PM
Benzo(a)anthracene	530		41	µg/Kg	1	2/10/2022 08:25 PM
Benzo(a)pyrene	510		41	µg/Kg	1	2/10/2022 08:25 PM
Benzo(b)fluoranthene	710		41	µg/Kg	1	2/10/2022 08:25 PM
Benzo(g,h,i)perylene	380		41	µg/Kg	1	2/10/2022 08:25 PM
Benzo(k)fluoranthene	240		41	µg/Kg	1	2/10/2022 08:25 PM
Bis(2-chloroethoxy)methane	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Bis(2-chloroethyl)ether	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Bis(2-ethylhexyl)phthalate	7,300		200	µg/Kg	1	2/10/2022 08:25 PM
Butyl benzyl phthalate	ND		410	µg/Kg	1	2/10/2022 08:25 PM
Caprolactam	ND		410	µg/Kg	1	2/10/2022 08:25 PM
Carbazole	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Chrysene	550		41	µg/Kg	1	2/10/2022 08:25 PM
Dibenzo(a,h)anthracene	77		41	µg/Kg	1	2/10/2022 08:25 PM
Dibenzofuran	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Diethyl phthalate	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Dimethyl phthalate	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Di-n-butyl phthalate	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Di-n-octyl phthalate	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Fluoranthene	1,700		41	µg/Kg	1	2/10/2022 08:25 PM
Fluorene	1,400		41	µg/Kg	1	2/10/2022 08:25 PM
Hexachlorobenzene	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Hexachlorobutadiene	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Hexachlorocyclopentadiene	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Hexachloroethane	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Indeno(1,2,3-cd)pyrene	440		41	µg/Kg	1	2/10/2022 08:25 PM
Isophorone	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
Naphthalene	6,700		41	µg/Kg	1	2/10/2022 08:25 PM
Nitrobenzene	ND		1,000	µg/Kg	1	2/10/2022 08:25 PM
N-Nitrosodi-n-propylamine	ND		200	µg/Kg	1	2/10/2022 08:25 PM
N-Nitrosodiphenylamine	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Pentachlorophenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-75 (3-4')
 Collection Date: 2/7/2022 10:40 AM

Work Order: 22020447
 Lab ID: 22020447-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	2,300		41	µg/Kg	1	2/10/2022 08:25 PM
Phenol	ND		200	µg/Kg	1	2/10/2022 08:25 PM
Pyrene	1,400		41	µg/Kg	1	2/10/2022 08:25 PM
Surr: 2,4,6-Tribromophenol	80.1		38-92	%REC	1	2/10/2022 08:25 PM
Surr: 2-Fluorobiphenyl	78.2		44-107	%REC	1	2/10/2022 08:25 PM
Surr: 2-Fluorophenol	89.6		37-109	%REC	1	2/10/2022 08:25 PM
Surr: 4-Terphenyl-d14	77.2		52-123	%REC	1	2/10/2022 08:25 PM
Surr: Nitrobenzene-d5	116	S	41-94	%REC	1	2/10/2022 08:25 PM
Surr: Phenol-d6	97.6		28-111	%REC	1	2/10/2022 08:25 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1,1-Trichloroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1,2,2-Tetrachloroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1,2-Trichloroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1,2-Trichlorotrifluoroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1-Dichloroethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,1-Dichloroethene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2,3-Trichloropropane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2,4-Trichlorobenzene	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2,4-Trimethylbenzene	7,400		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2-Dibromo-3-chloropropane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2-Dibromoethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2-Dichlorobenzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2-Dichloroethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
1,2-Dichloropropane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,3,5-Trimethylbenzene	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
1,3-Dichlorobenzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
1,4-Dichlorobenzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
2-Butanone	ND		2,300	µg/Kg-dry	10	2/9/2022 02:54 PM
2-Hexanone	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
2-Methylnaphthalene	25,000		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
4-Methyl-2-pentanone	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Acetone	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
Acrylonitrile	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
Benzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Bromochloromethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Bromodichloromethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Bromoform	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Bromomethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-75 (3-4')
Collection Date: 2/7/2022 10:40 AM

Work Order: 22020447
Lab ID: 22020447-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Carbon tetrachloride	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Chlorobenzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Chloroethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
Chloroform	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Chloromethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
cis-1,2-Dichloroethene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
cis-1,3-Dichloropropene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Dibromochloromethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Dibromomethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Dichlorodifluoromethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
Diethyl ether	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Ethylbenzene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Hexachloroethane	ND		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
Isopropylbenzene	440		350	µg/Kg-dry	10	2/9/2022 02:54 PM
m,p-Xylene	710		690	µg/Kg-dry	10	2/9/2022 02:54 PM
Methyl iodide	ND		5,800	µg/Kg-dry	10	2/9/2022 02:54 PM
Methyl tert-butyl ether	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Methylene chloride	ND		2,900	µg/Kg-dry	10	2/9/2022 02:54 PM
Naphthalene	4,400		1,200	µg/Kg-dry	10	2/9/2022 02:54 PM
n-Propylbenzene	1,100		350	µg/Kg-dry	10	2/9/2022 02:54 PM
o-Xylene	550		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Styrene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Tetrachloroethene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Toluene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
trans-1,2-Dichloroethene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
trans-1,3-Dichloropropene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
trans-1,4-Dichloro-2-butene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Trichloroethene	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Trichlorofluoromethane	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Vinyl acetate	ND		2,900	µg/Kg-dry	10	2/9/2022 02:54 PM
Vinyl chloride	ND		350	µg/Kg-dry	10	2/9/2022 02:54 PM
Xylenes, Total	1,300		1,000	µg/Kg-dry	10	2/9/2022 02:54 PM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	10	2/9/2022 02:54 PM
Surr: 4-Bromofluorobenzene	93.8		70-130	%REC	10	2/9/2022 02:54 PM
Surr: Dibromofluoromethane	98.5		70-130	%REC	10	2/9/2022 02:54 PM
Surr: Toluene-d8	99.4		70-130	%REC	10	2/9/2022 02:54 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **13** **0.10** **% of sample** **1** 2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (2-3')
Collection Date: 2/7/2022 11:50 AM

Work Order: 22020447
Lab ID: 22020447-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	ND		0.019	mg/Kg	1	2/11/2022 12:13 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	1.0		0.40	mg/Kg	1	2/9/2022 08:21 PM
Barium	9.4		0.40	mg/Kg	1	2/9/2022 08:21 PM
Cadmium	ND		0.16	mg/Kg	1	2/9/2022 08:21 PM
Chromium	4.5		0.40	mg/Kg	1	2/9/2022 08:21 PM
Copper	2.6		0.40	mg/Kg	1	2/9/2022 08:21 PM
Lead	5.1		0.40	mg/Kg	1	2/9/2022 08:21 PM
Selenium	ND		0.40	mg/Kg	1	2/9/2022 08:21 PM
Silver	ND		0.40	mg/Kg	1	2/9/2022 08:21 PM
Zinc	13		0.80	mg/Kg	1	2/9/2022 08:21 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/10/2022 08:46 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/10/2022 08:46 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/10/2022 08:46 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/10/2022 08:46 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/10/2022 08:46 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2-Methylnaphthalene	13		6.6	µg/Kg	1	2/10/2022 08:46 PM
2-Methylphenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 08:46 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/10/2022 08:46 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 08:46 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 08:46 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/10/2022 08:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-76 (2-3')
 Collection Date: 2/7/2022 11:50 AM

Work Order: 22020447
 Lab ID: 22020447-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 08:46 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/10/2022 08:46 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/10/2022 08:46 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Acetophenone	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Anthracene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Atrazine	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Benzaldehyde	ND		67	µg/Kg	1	2/10/2022 08:46 PM
Benzo(a)anthracene	16		6.6	µg/Kg	1	2/10/2022 08:46 PM
Benzo(a)pyrene	19		6.6	µg/Kg	1	2/10/2022 08:46 PM
Benzo(b)fluoranthene	26		6.6	µg/Kg	1	2/10/2022 08:46 PM
Benzo(g,h,i)perylene	17		6.6	µg/Kg	1	2/10/2022 08:46 PM
Benzo(k)fluoranthene	9.9		6.6	µg/Kg	1	2/10/2022 08:46 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/10/2022 08:46 PM
Caprolactam	ND		67	µg/Kg	1	2/10/2022 08:46 PM
Carbazole	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Chrysene	12		6.6	µg/Kg	1	2/10/2022 08:46 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Dibenzofuran	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Fluoranthene	13		6.6	µg/Kg	1	2/10/2022 08:46 PM
Fluorene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Hexachloroethane	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Indeno(1,2,3-cd)pyrene	23		6.6	µg/Kg	1	2/10/2022 08:46 PM
Isophorone	ND		170	µg/Kg	1	2/10/2022 08:46 PM
Naphthalene	8.0		6.6	µg/Kg	1	2/10/2022 08:46 PM
Nitrobenzene	ND		170	µg/Kg	1	2/10/2022 08:46 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/10/2022 08:46 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (2-3')
Collection Date: 2/7/2022 11:50 AM

Work Order: 22020447
Lab ID: 22020447-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.6	µg/Kg	1	2/10/2022 08:46 PM
Phenol	ND		33	µg/Kg	1	2/10/2022 08:46 PM
Pyrene	15		6.6	µg/Kg	1	2/10/2022 08:46 PM
Surr: 2,4,6-Tribromophenol	74.4		38-92	%REC	1	2/10/2022 08:46 PM
Surr: 2-Fluorobiphenyl	76.6		44-107	%REC	1	2/10/2022 08:46 PM
Surr: 2-Fluorophenol	68.8		37-109	%REC	1	2/10/2022 08:46 PM
Surr: 4-Terphenyl-d14	74.9		52-123	%REC	1	2/10/2022 08:46 PM
Surr: Nitrobenzene-d5	70.0		41-94	%REC	1	2/10/2022 08:46 PM
Surr: Phenol-d6	75.6		28-111	%REC	1	2/10/2022 08:46 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/8/22 10:01

Analyst: **DMS**

1,1,1,2-Tetrachloroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1,1-Trichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1,2,2-Tetrachloroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1,2-Trichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1,2-Trichlorotrifluoroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1-Dichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,1-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2,3-Trichloropropane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2,4-Trichlorobenzene	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2,4-Trimethylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2-Dibromo-3-chloropropane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2-Dibromoethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2-Dichloroethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
1,2-Dichloropropane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,3,5-Trimethylbenzene	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
1,3-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
1,4-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
2-Butanone	ND		250	µg/Kg-dry	1	2/8/2022 05:20 PM
2-Hexanone	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
2-Methylnaphthalene	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
4-Methyl-2-pentanone	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Acetone	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
Acrylonitrile	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
Benzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Bromochloromethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Bromodichloromethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Bromoform	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Bromomethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (2-3')
Collection Date: 2/7/2022 11:50 AM

Work Order: 22020447
Lab ID: 22020447-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Carbon tetrachloride	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Chlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Chloroethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
Chloroform	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Chloromethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
cis-1,2-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
cis-1,3-Dichloropropene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Dibromochloromethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Dibromomethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Dichlorodifluoromethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
Diethyl ether	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Hexachloroethane	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
Isopropylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	2/8/2022 05:20 PM
Methyl iodide	ND		630	µg/Kg-dry	1	2/8/2022 05:20 PM
Methyl tert-butyl ether	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Methylene chloride	ND		310	µg/Kg-dry	1	2/8/2022 05:20 PM
Naphthalene	ND		130	µg/Kg-dry	1	2/8/2022 05:20 PM
n-Propylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
o-Xylene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Styrene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Tetrachloroethene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Toluene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
trans-1,2-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
trans-1,3-Dichloropropene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
trans-1,4-Dichloro-2-butene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Trichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Trichlorofluoromethane	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Vinyl acetate	ND		310	µg/Kg-dry	1	2/8/2022 05:20 PM
Vinyl chloride	ND		38	µg/Kg-dry	1	2/8/2022 05:20 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/8/2022 05:20 PM
Surr: 1,2-Dichloroethane-d4	95.8		70-130	%REC	1	2/8/2022 05:20 PM
Surr: 4-Bromofluorobenzene	96.4		70-130	%REC	1	2/8/2022 05:20 PM
Surr: Dibromofluoromethane	97.6		70-130	%REC	1	2/8/2022 05:20 PM
Surr: Toluene-d8	93.7		70-130	%REC	1	2/8/2022 05:20 PM

MOISTURE

SW3550C

Analyst: **ALG**

Moisture 13 0.10 % of sample 1 2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-77 (4-5')
Collection Date: 2/7/2022 12:30 PM

Work Order: 22020447
Lab ID: 22020447-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.029		0.018	mg/Kg	1	2/11/2022 12:15 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	2.8		0.40	mg/Kg	1	2/9/2022 08:22 PM
Barium	88		0.40	mg/Kg	1	2/9/2022 08:22 PM
Cadmium	ND		0.16	mg/Kg	1	2/9/2022 08:22 PM
Chromium	18		0.40	mg/Kg	1	2/9/2022 08:22 PM
Copper	9.6		0.40	mg/Kg	1	2/9/2022 08:22 PM
Lead	7.3		0.40	mg/Kg	1	2/9/2022 08:22 PM
Selenium	ND		0.40	mg/Kg	1	2/9/2022 08:22 PM
Silver	ND		0.40	mg/Kg	1	2/9/2022 08:22 PM
Zinc	44		8.0	mg/Kg	10	2/10/2022 01:25 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		32	µg/Kg	1	2/10/2022 09:06 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/10/2022 09:06 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/10/2022 09:06 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,3,4,6-Tetrachlorophenol	ND		65	µg/Kg	1	2/10/2022 09:06 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/10/2022 09:06 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2-Methylnaphthalene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
2-Methylphenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 09:06 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/10/2022 09:06 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 09:06 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 09:06 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
4-Chloroaniline	ND		65	µg/Kg	1	2/10/2022 09:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-77 (4-5')
Collection Date: 2/7/2022 12:30 PM

Work Order: 22020447
Lab ID: 22020447-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 09:06 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/10/2022 09:06 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/10/2022 09:06 PM
Acenaphthene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Acetophenone	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Anthracene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Atrazine	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Benzaldehyde	ND		65	µg/Kg	1	2/10/2022 09:06 PM
Benzo(a)anthracene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Benzo(a)pyrene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Benzo(b)fluoranthene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Benzo(g,h,i)perylene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Benzo(k)fluoranthene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Butyl benzyl phthalate	ND		65	µg/Kg	1	2/10/2022 09:06 PM
Caprolactam	ND		65	µg/Kg	1	2/10/2022 09:06 PM
Carbazole	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Chrysene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Dibenzo(a,h)anthracene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Dibenzofuran	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Fluoranthene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Fluorene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Hexachloroethane	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Indeno(1,2,3-cd)pyrene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Isophorone	ND		160	µg/Kg	1	2/10/2022 09:06 PM
Naphthalene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Nitrobenzene	ND		160	µg/Kg	1	2/10/2022 09:06 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/10/2022 09:06 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-77 (4-5')
Collection Date: 2/7/2022 12:30 PM

Work Order: 22020447
Lab ID: 22020447-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Phenol	ND		32	µg/Kg	1	2/10/2022 09:06 PM
Pyrene	ND		6.5	µg/Kg	1	2/10/2022 09:06 PM
Surr: 2,4,6-Tribromophenol	55.9		38-92	%REC	1	2/10/2022 09:06 PM
Surr: 2-Fluorobiphenyl	60.7		44-107	%REC	1	2/10/2022 09:06 PM
Surr: 2-Fluorophenol	68.5		37-109	%REC	1	2/10/2022 09:06 PM
Surr: 4-Terphenyl-d14	56.5		52-123	%REC	1	2/10/2022 09:06 PM
Surr: Nitrobenzene-d5	59.9		41-94	%REC	1	2/10/2022 09:06 PM
Surr: Phenol-d6	72.5		28-111	%REC	1	2/10/2022 09:06 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/8/22 10:01

Analyst: **MF**

1,1,1,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1,1-Trichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1,2,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1,2-Trichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1,2-Trichlorotrifluoroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1-Dichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,1-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2,3-Trichloropropane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2,4-Trimethylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2-Dibromoethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
1,2-Dichloropropane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
1,3-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
1,4-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
2-Butanone	ND		220	µg/Kg-dry	1	2/8/2022 03:28 PM
2-Hexanone	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
4-Methyl-2-pentanone	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Acetone	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
Benzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Bromochloromethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Bromodichloromethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Bromoform	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-77 (4-5')
Collection Date: 2/7/2022 12:30 PM

Work Order: 22020447
Lab ID: 22020447-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Carbon tetrachloride	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Chlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
Chloroform	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
cis-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
cis-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Dibromochloromethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Dibromomethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
Diethyl ether	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
Isopropylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	2/8/2022 03:28 PM
Methyl iodide	ND		560	µg/Kg-dry	1	2/8/2022 03:28 PM
Methyl tert-butyl ether	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Methylene chloride	ND		280	µg/Kg-dry	1	2/8/2022 03:28 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/8/2022 03:28 PM
n-Propylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
o-Xylene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Styrene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Tetrachloroethene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Toluene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
trans-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
trans-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
trans-1,4-Dichloro-2-butene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Trichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Trichlorofluoromethane	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Vinyl acetate	ND		280	µg/Kg-dry	1	2/8/2022 03:28 PM
Vinyl chloride	ND		34	µg/Kg-dry	1	2/8/2022 03:28 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/8/2022 03:28 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	2/8/2022 03:28 PM
Surr: 4-Bromofluorobenzene	106		70-130	%REC	1	2/8/2022 03:28 PM
Surr: Dibromofluoromethane	101		70-130	%REC	1	2/8/2022 03:28 PM
Surr: Toluene-d8	103		70-130	%REC	1	2/8/2022 03:28 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **16** **0.10** **% of sample** **1** 2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-78 (1-2')
Collection Date: 2/7/2022 01:00 PM

Work Order: 22020447
Lab ID: 22020447-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	ND		0.019	mg/Kg	1	2/11/2022 12:17 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	3.6		0.40	mg/Kg	1	2/9/2022 08:28 PM
Barium	17		0.40	mg/Kg	1	2/9/2022 08:28 PM
Cadmium	ND		0.16	mg/Kg	1	2/9/2022 08:28 PM
Chromium	5.4		0.40	mg/Kg	1	2/9/2022 08:28 PM
Copper	6.9		0.40	mg/Kg	1	2/9/2022 08:28 PM
Lead	7.7		0.40	mg/Kg	1	2/9/2022 08:28 PM
Selenium	ND		0.40	mg/Kg	1	2/9/2022 08:28 PM
Silver	ND		0.40	mg/Kg	1	2/9/2022 08:28 PM
Zinc	26		7.9	mg/Kg	10	2/10/2022 01:27 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	1,000		32	µg/Kg	1	2/10/2022 07:23 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/10/2022 07:23 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/10/2022 07:23 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/10/2022 07:23 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/10/2022 07:23 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/10/2022 07:23 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2-Methylnaphthalene	5,300		66	µg/Kg	10	2/14/2022 03:58 PM
2-Methylphenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 07:23 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/10/2022 07:23 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 07:23 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 07:23 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/10/2022 07:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-78 (1-2')
 Collection Date: 2/7/2022 01:00 PM

Work Order: 22020447
 Lab ID: 22020447-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 07:23 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/10/2022 07:23 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/10/2022 07:23 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/10/2022 07:23 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/10/2022 07:23 PM
Acetophenone	790		32	µg/Kg	1	2/10/2022 07:23 PM
Anthracene	17		6.6	µg/Kg	1	2/10/2022 07:23 PM
Atrazine	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Benzaldehyde	ND		66	µg/Kg	1	2/10/2022 07:23 PM
Benzo(a)anthracene	33		6.6	µg/Kg	1	2/10/2022 07:23 PM
Benzo(a)pyrene	26		6.6	µg/Kg	1	2/10/2022 07:23 PM
Benzo(b)fluoranthene	45		6.6	µg/Kg	1	2/10/2022 07:23 PM
Benzo(g,h,i)perylene	34		6.6	µg/Kg	1	2/10/2022 07:23 PM
Benzo(k)fluoranthene	21		6.6	µg/Kg	1	2/10/2022 07:23 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/10/2022 07:23 PM
Caprolactam	ND		66	µg/Kg	1	2/10/2022 07:23 PM
Carbazole	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Chrysene	27		6.6	µg/Kg	1	2/10/2022 07:23 PM
Dibenzo(a,h)anthracene	7.2		6.6	µg/Kg	1	2/10/2022 07:23 PM
Dibenzofuran	530		32	µg/Kg	1	2/10/2022 07:23 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Fluoranthene	56		6.6	µg/Kg	1	2/10/2022 07:23 PM
Fluorene	ND		6.6	µg/Kg	1	2/10/2022 07:23 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Hexachloroethane	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Indeno(1,2,3-cd)pyrene	43		6.6	µg/Kg	1	2/10/2022 07:23 PM
Isophorone	ND		160	µg/Kg	1	2/10/2022 07:23 PM
Naphthalene	1,700		6.6	µg/Kg	1	2/10/2022 07:23 PM
Nitrobenzene	ND		160	µg/Kg	1	2/10/2022 07:23 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/10/2022 07:23 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-78 (1-2')
 Collection Date: 2/7/2022 01:00 PM

Work Order: 22020447
 Lab ID: 22020447-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	190		6.6	µg/Kg	1	2/10/2022 07:23 PM
Phenol	ND		32	µg/Kg	1	2/10/2022 07:23 PM
Pyrene	55		6.6	µg/Kg	1	2/10/2022 07:23 PM
Surr: 2,4,6-Tribromophenol	74.5		38-92	%REC	1	2/10/2022 07:23 PM
Surr: 2-Fluorobiphenyl	75.0		44-107	%REC	1	2/10/2022 07:23 PM
Surr: 2-Fluorophenol	80.1		37-109	%REC	1	2/10/2022 07:23 PM
Surr: 4-Terphenyl-d14	77.5		52-123	%REC	1	2/10/2022 07:23 PM
Surr: Nitrobenzene-d5	95.7	S	41-94	%REC	1	2/10/2022 07:23 PM
Surr: Phenol-d6	86.9		28-111	%REC	1	2/10/2022 07:23 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1,1-Trichloroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1,2,2-Tetrachloroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1,2-Trichloroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1,2-Trichlorotrifluoroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1-Dichloroethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,1-Dichloroethene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2,3-Trichloropropane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2,4-Trimethylbenzene	1,200		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2-Dibromoethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
1,2-Dichloropropane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,3,5-Trimethylbenzene	490		120	µg/Kg-dry	1	2/8/2022 03:46 PM
1,3-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
1,4-Dichlorobenzene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
2-Butanone	ND		240	µg/Kg-dry	1	2/8/2022 03:46 PM
2-Hexanone	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
2-Methylnaphthalene	6,200		480	µg/Kg-dry	4	2/9/2022 03:44 PM
4-Methyl-2-pentanone	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Acetone	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
Benzene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Bromochloromethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Bromodichloromethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Bromoform	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-78 (1-2')
 Collection Date: 2/7/2022 01:00 PM

Work Order: 22020447
 Lab ID: 22020447-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Carbon tetrachloride	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Chlorobenzene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
Chloroform	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
cis-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
cis-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Dibromochloromethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Dibromomethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
Diethyl ether	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Ethylbenzene	59		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/8/2022 03:46 PM
Isopropylbenzene	80		36	µg/Kg-dry	1	2/8/2022 03:46 PM
m,p-Xylene	100		72	µg/Kg-dry	1	2/8/2022 03:46 PM
Methyl iodide	ND		600	µg/Kg-dry	1	2/8/2022 03:46 PM
Methyl tert-butyl ether	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Methylene chloride	ND		300	µg/Kg-dry	1	2/8/2022 03:46 PM
Naphthalene	1,700		120	µg/Kg-dry	1	2/8/2022 03:46 PM
n-Propylbenzene	250		36	µg/Kg-dry	1	2/8/2022 03:46 PM
o-Xylene	47		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Styrene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Tetrachloroethene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Toluene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
trans-1,2-Dichloroethene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
trans-1,3-Dichloropropene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
trans-1,4-Dichloro-2-butene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Trichloroethene	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Trichlorofluoromethane	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Vinyl acetate	ND		300	µg/Kg-dry	1	2/8/2022 03:46 PM
Vinyl chloride	ND		36	µg/Kg-dry	1	2/8/2022 03:46 PM
Xylenes, Total	150		110	µg/Kg-dry	1	2/8/2022 03:46 PM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	4	2/9/2022 03:44 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	2/8/2022 03:46 PM
Surr: 4-Bromofluorobenzene	97.3		70-130	%REC	4	2/9/2022 03:44 PM
Surr: 4-Bromofluorobenzene	118		70-130	%REC	1	2/8/2022 03:46 PM
Surr: Dibromofluoromethane	100		70-130	%REC	4	2/9/2022 03:44 PM
Surr: Dibromofluoromethane	102		70-130	%REC	1	2/8/2022 03:46 PM
Surr: Toluene-d8	101		70-130	%REC	1	2/8/2022 03:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-78 (1-2')
Collection Date: 2/7/2022 01:00 PM

Work Order: 22020447
Lab ID: 22020447-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Toluene-d8	89.2		70-130	%REC	4	2/9/2022 03:44 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	5.1		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-79 (4-5')
Collection Date: 2/7/2022 03:50 PM

Work Order: 22020447
Lab ID: 22020447-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.020		0.018	mg/Kg	1	2/11/2022 12:22 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	8.2		0.32	mg/Kg	1	2/9/2022 08:30 PM
Barium	74		0.32	mg/Kg	1	2/9/2022 08:30 PM
Cadmium	ND		0.13	mg/Kg	1	2/9/2022 08:30 PM
Chromium	13		0.32	mg/Kg	1	2/9/2022 08:30 PM
Copper	16		3.2	mg/Kg	10	2/10/2022 01:29 PM
Lead	19		0.32	mg/Kg	1	2/9/2022 08:30 PM
Selenium	ND		0.32	mg/Kg	1	2/9/2022 08:30 PM
Silver	ND		0.32	mg/Kg	1	2/9/2022 08:30 PM
Zinc	41		6.4	mg/Kg	10	2/10/2022 01:29 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	68		32	µg/Kg	1	2/10/2022 09:27 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/10/2022 09:27 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/10/2022 09:27 PM
2,2'-Oxybis(1-chloropropane)	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/10/2022 09:27 PM
2,4,5-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,4,6-Trichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,4-Dichlorophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,4-Dimethylphenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,4-Dinitrophenol	ND		650	µg/Kg	1	2/10/2022 09:27 PM
2,4-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2,6-Dinitrotoluene	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2-Chloronaphthalene	ND		6.5	µg/Kg	1	2/10/2022 09:27 PM
2-Chlorophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2-Methylnaphthalene	800		6.5	µg/Kg	1	2/10/2022 09:27 PM
2-Methylphenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 09:27 PM
2-Nitrophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
3&4-Methylphenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/10/2022 09:27 PM
3-Nitroaniline	ND		32	µg/Kg	1	2/10/2022 09:27 PM
4,6-Dinitro-2-methylphenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
4-Bromophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 09:27 PM
4-Chloro-3-methylphenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/10/2022 09:27 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-79 (4-5')
 Collection Date: 2/7/2022 03:50 PM

Work Order: 22020447
 Lab ID: 22020447-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		32	µg/Kg	1	2/10/2022 09:27 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/10/2022 09:27 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/10/2022 09:27 PM
Acenaphthene	24		6.5	µg/Kg	1	2/10/2022 09:27 PM
Acenaphthylene	ND		6.5	µg/Kg	1	2/10/2022 09:27 PM
Acetophenone	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Anthracene	36		6.5	µg/Kg	1	2/10/2022 09:27 PM
Atrazine	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Benzaldehyde	ND		66	µg/Kg	1	2/10/2022 09:27 PM
Benzo(a)anthracene	40		6.5	µg/Kg	1	2/10/2022 09:27 PM
Benzo(a)pyrene	24		6.5	µg/Kg	1	2/10/2022 09:27 PM
Benzo(b)fluoranthene	34		6.5	µg/Kg	1	2/10/2022 09:27 PM
Benzo(g,h,i)perylene	14		6.5	µg/Kg	1	2/10/2022 09:27 PM
Benzo(k)fluoranthene	14		6.5	µg/Kg	1	2/10/2022 09:27 PM
Bis(2-chloroethoxy)methane	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Bis(2-chloroethyl)ether	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Bis(2-ethylhexyl)phthalate	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/10/2022 09:27 PM
Caprolactam	ND		66	µg/Kg	1	2/10/2022 09:27 PM
Carbazole	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Chrysene	28		6.5	µg/Kg	1	2/10/2022 09:27 PM
Dibenzo(a,h)anthracene	ND		6.5	µg/Kg	1	2/10/2022 09:27 PM
Dibenzofuran	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Diethyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Dimethyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Di-n-butyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Di-n-octyl phthalate	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Fluoranthene	120		6.5	µg/Kg	1	2/10/2022 09:27 PM
Fluorene	40		6.5	µg/Kg	1	2/10/2022 09:27 PM
Hexachlorobenzene	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Hexachlorobutadiene	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Hexachlorocyclopentadiene	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Hexachloroethane	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Indeno(1,2,3-cd)pyrene	20		6.5	µg/Kg	1	2/10/2022 09:27 PM
Isophorone	ND		160	µg/Kg	1	2/10/2022 09:27 PM
Naphthalene	760		6.5	µg/Kg	1	2/10/2022 09:27 PM
Nitrobenzene	ND		160	µg/Kg	1	2/10/2022 09:27 PM
N-Nitrosodi-n-propylamine	ND		32	µg/Kg	1	2/10/2022 09:27 PM
N-Nitrosodiphenylamine	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Pentachlorophenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-79 (4-5')
 Collection Date: 2/7/2022 03:50 PM

Work Order: 22020447
 Lab ID: 22020447-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	140		6.5	µg/Kg	1	2/10/2022 09:27 PM
Phenol	ND		32	µg/Kg	1	2/10/2022 09:27 PM
Pyrene	100		6.5	µg/Kg	1	2/10/2022 09:27 PM
Surr: 2,4,6-Tribromophenol	31.1	S	38-92	%REC	1	2/10/2022 09:27 PM
Surr: 2-Fluorobiphenyl	38.8	S	44-107	%REC	1	2/10/2022 09:27 PM
Surr: 2-Fluorophenol	64.0		37-109	%REC	1	2/10/2022 09:27 PM
Surr: 4-Terphenyl-d14	32.5	S	52-123	%REC	1	2/10/2022 09:27 PM
Surr: Nitrobenzene-d5	32.6	S	41-94	%REC	1	2/10/2022 09:27 PM
Surr: Phenol-d6	60.5		28-111	%REC	1	2/10/2022 09:27 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1,2-Trichlorotrifluoroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2,3-Trichloropropane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2,4-Trimethylbenzene	1,200		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2-Dibromoethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,3,5-Trimethylbenzene	490		120	µg/Kg-dry	1	2/8/2022 04:04 PM
1,3-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
1,4-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/8/2022 04:04 PM
2-Hexanone	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
2-Methylnaphthalene	2,000		120	µg/Kg-dry	1	2/8/2022 04:04 PM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Acetone	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
Benzene	930		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Bromochloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Bromodichloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Bromoform	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-79 (4-5')
Collection Date: 2/7/2022 03:50 PM

Work Order: 22020447
Lab ID: 22020447-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Chlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
Chloroform	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Dibromochloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Dibromomethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
Diethyl ether	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Ethylbenzene	1,600		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:04 PM
Isopropylbenzene	210		35	µg/Kg-dry	1	2/8/2022 04:04 PM
m,p-Xylene	2,800		69	µg/Kg-dry	1	2/8/2022 04:04 PM
Methyl iodide	ND		580	µg/Kg-dry	1	2/8/2022 04:04 PM
Methyl tert-butyl ether	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Methylene chloride	ND		290	µg/Kg-dry	1	2/8/2022 04:04 PM
Naphthalene	800		120	µg/Kg-dry	1	2/8/2022 04:04 PM
n-Propylbenzene	340		35	µg/Kg-dry	1	2/8/2022 04:04 PM
o-Xylene	140		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Styrene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Tetrachloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Toluene	240		35	µg/Kg-dry	1	2/8/2022 04:04 PM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Trichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Trichlorofluoromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Vinyl acetate	ND		290	µg/Kg-dry	1	2/8/2022 04:04 PM
Vinyl chloride	ND		35	µg/Kg-dry	1	2/8/2022 04:04 PM
Xylenes, Total	2,900		100	µg/Kg-dry	1	2/8/2022 04:04 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	2/8/2022 04:04 PM
Surr: 4-Bromofluorobenzene	96.5		70-130	%REC	1	2/8/2022 04:04 PM
Surr: Dibromofluoromethane	98.3		70-130	%REC	1	2/8/2022 04:04 PM
Surr: Toluene-d8	111		70-130	%REC	1	2/8/2022 04:04 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	18		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-80 (3-4')
 Collection Date: 2/7/2022 01:50 PM

Work Order: 22020447
 Lab ID: 22020447-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.037		0.018	mg/Kg	1	2/11/2022 12:24 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	6.2		0.37	mg/Kg	1	2/9/2022 08:31 PM
Barium	36		0.37	mg/Kg	1	2/9/2022 08:31 PM
Cadmium	ND		0.15	mg/Kg	1	2/9/2022 08:31 PM
Chromium	11		0.37	mg/Kg	1	2/9/2022 08:31 PM
Copper	39		3.7	mg/Kg	10	2/10/2022 01:34 PM
Lead	22		0.37	mg/Kg	1	2/9/2022 08:31 PM
Selenium	ND		0.37	mg/Kg	1	2/9/2022 08:31 PM
Silver	ND		0.37	mg/Kg	1	2/9/2022 08:31 PM
Zinc	65		7.4	mg/Kg	10	2/10/2022 01:34 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/10/2022 09:47 PM
1,2,4,5-Tetrachlorobenzene	ND		160	µg/Kg	1	2/10/2022 09:47 PM
1,4-Dioxane	ND		160	µg/Kg	1	2/10/2022 09:47 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,3,4,6-Tetrachlorophenol	ND		66	µg/Kg	1	2/10/2022 09:47 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/10/2022 09:47 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/10/2022 09:47 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2-Methylnaphthalene	120		6.6	µg/Kg	1	2/10/2022 09:47 PM
2-Methylphenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 09:47 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
3,3'-Dichlorobenzidine	ND		160	µg/Kg	1	2/10/2022 09:47 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 09:47 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 09:47 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
4-Chloroaniline	ND		66	µg/Kg	1	2/10/2022 09:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-80 (3-4')
 Collection Date: 2/7/2022 01:50 PM

Work Order: 22020447
 Lab ID: 22020447-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 09:47 PM
4-Nitroaniline	ND		160	µg/Kg	1	2/10/2022 09:47 PM
4-Nitrophenol	ND		160	µg/Kg	1	2/10/2022 09:47 PM
Acenaphthene	17		6.6	µg/Kg	1	2/10/2022 09:47 PM
Acenaphthylene	16		6.6	µg/Kg	1	2/10/2022 09:47 PM
Acetophenone	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Anthracene	89		6.6	µg/Kg	1	2/10/2022 09:47 PM
Atrazine	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Benzaldehyde	ND		66	µg/Kg	1	2/10/2022 09:47 PM
Benzo(a)anthracene	300		6.6	µg/Kg	1	2/10/2022 09:47 PM
Benzo(a)pyrene	270		6.6	µg/Kg	1	2/10/2022 09:47 PM
Benzo(b)fluoranthene	360		6.6	µg/Kg	1	2/10/2022 09:47 PM
Benzo(g,h,i)perylene	170		6.6	µg/Kg	1	2/10/2022 09:47 PM
Benzo(k)fluoranthene	110		6.6	µg/Kg	1	2/10/2022 09:47 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Butyl benzyl phthalate	ND		66	µg/Kg	1	2/10/2022 09:47 PM
Caprolactam	ND		66	µg/Kg	1	2/10/2022 09:47 PM
Carbazole	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Chrysene	310		6.6	µg/Kg	1	2/10/2022 09:47 PM
Dibenzo(a,h)anthracene	35		6.6	µg/Kg	1	2/10/2022 09:47 PM
Dibenzofuran	37		33	µg/Kg	1	2/10/2022 09:47 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Fluoranthene	630		6.6	µg/Kg	1	2/10/2022 09:47 PM
Fluorene	26		6.6	µg/Kg	1	2/10/2022 09:47 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Hexachloroethane	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Indeno(1,2,3-cd)pyrene	200		6.6	µg/Kg	1	2/10/2022 09:47 PM
Isophorone	ND		160	µg/Kg	1	2/10/2022 09:47 PM
Naphthalene	110		6.6	µg/Kg	1	2/10/2022 09:47 PM
Nitrobenzene	ND		160	µg/Kg	1	2/10/2022 09:47 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/10/2022 09:47 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-80 (3-4')
Collection Date: 2/7/2022 01:50 PM

Work Order: 22020447
Lab ID: 22020447-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	320		6.6	µg/Kg	1	2/10/2022 09:47 PM
Phenol	ND		33	µg/Kg	1	2/10/2022 09:47 PM
Pyrene	530		6.6	µg/Kg	1	2/10/2022 09:47 PM
Surr: 2,4,6-Tribromophenol	32.8	S	38-92	%REC	1	2/10/2022 09:47 PM
Surr: 2-Fluorobiphenyl	39.9	S	44-107	%REC	1	2/10/2022 09:47 PM
Surr: 2-Fluorophenol	54.3		37-109	%REC	1	2/10/2022 09:47 PM
Surr: 4-Terphenyl-d14	31.2	S	52-123	%REC	1	2/10/2022 09:47 PM
Surr: Nitrobenzene-d5	38.9	S	41-94	%REC	1	2/10/2022 09:47 PM
Surr: Phenol-d6	54.3		28-111	%REC	1	2/10/2022 09:47 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01	Analyst: MF	
1,1,1,2-Tetrachloroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1,1-Trichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1,2,2-Tetrachloroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1,2-Trichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1,2-Trichlorotrifluoroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1-Dichloroethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,1-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2,3-Trichloropropane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2,4-Trichlorobenzene	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2,4-Trimethylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2-Dibromo-3-chloropropane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2-Dibromoethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2-Dichloroethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
1,2-Dichloropropane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,3,5-Trimethylbenzene	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
1,3-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
1,4-Dichlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
2-Butanone	ND		250	µg/Kg-dry	1	2/8/2022 04:23 PM
2-Hexanone	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
2-Methylnaphthalene	240		130	µg/Kg-dry	1	2/8/2022 04:23 PM
4-Methyl-2-pentanone	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Acetone	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
Acrylonitrile	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
Benzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Bromochloromethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Bromodichloromethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Bromoform	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Bromomethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-80 (3-4')
Collection Date: 2/7/2022 01:50 PM

Work Order: 22020447
Lab ID: 22020447-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Carbon tetrachloride	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Chlorobenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Chloroethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
Chloroform	63		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Chloromethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
cis-1,2-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
cis-1,3-Dichloropropene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Dibromochloromethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Dibromomethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Dichlorodifluoromethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
Diethyl ether	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Hexachloroethane	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
Isopropylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
m,p-Xylene	ND		76	µg/Kg-dry	1	2/8/2022 04:23 PM
Methyl iodide	ND		630	µg/Kg-dry	1	2/8/2022 04:23 PM
Methyl tert-butyl ether	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Methylene chloride	ND		320	µg/Kg-dry	1	2/8/2022 04:23 PM
Naphthalene	ND		130	µg/Kg-dry	1	2/8/2022 04:23 PM
n-Propylbenzene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
o-Xylene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Styrene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Tetrachloroethene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Toluene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
trans-1,2-Dichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
trans-1,3-Dichloropropene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
trans-1,4-Dichloro-2-butene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Trichloroethene	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Trichlorofluoromethane	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Vinyl acetate	ND		320	µg/Kg-dry	1	2/8/2022 04:23 PM
Vinyl chloride	ND		38	µg/Kg-dry	1	2/8/2022 04:23 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	2/8/2022 04:23 PM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	2/8/2022 04:23 PM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	2/8/2022 04:23 PM
Surr: Dibromofluoromethane	96.0		70-130	%REC	1	2/8/2022 04:23 PM
Surr: Toluene-d8	116		70-130	%REC	1	2/8/2022 04:23 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **17** **0.10** **% of sample** **1** 2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-81 (2-3')
Collection Date: 2/7/2022 02:15 PM

Work Order: 22020447
Lab ID: 22020447-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.046		0.018	mg/Kg	1	2/11/2022 12:26 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	5.3		0.38	mg/Kg	1	2/9/2022 08:33 PM
Barium	66		0.38	mg/Kg	1	2/9/2022 08:33 PM
Cadmium	0.21		0.15	mg/Kg	1	2/9/2022 08:33 PM
Chromium	9.3		0.38	mg/Kg	1	2/9/2022 08:33 PM
Copper	16		3.8	mg/Kg	10	2/10/2022 01:36 PM
Lead	48		0.38	mg/Kg	1	2/9/2022 08:33 PM
Selenium	ND		0.38	mg/Kg	1	2/9/2022 08:33 PM
Silver	ND		0.38	mg/Kg	1	2/9/2022 08:33 PM
Zinc	47		7.7	mg/Kg	10	2/10/2022 01:36 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	410		230	µg/Kg	1	2/10/2022 10:08 PM
1,2,4,5-Tetrachlorobenzene	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
1,4-Dioxane	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
2,2'-Oxybis(1-chloropropane)	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,3,4,6-Tetrachlorophenol	ND		470	µg/Kg	1	2/10/2022 10:08 PM
2,4,5-Trichlorophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,4,6-Trichlorophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,4-Dichlorophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,4-Dimethylphenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,4-Dinitrophenol	ND		4,700	µg/Kg	1	2/10/2022 10:08 PM
2,4-Dinitrotoluene	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2,6-Dinitrotoluene	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2-Chloronaphthalene	ND		47	µg/Kg	1	2/10/2022 10:08 PM
2-Chlorophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2-Methylnaphthalene	1,500		47	µg/Kg	1	2/10/2022 10:08 PM
2-Methylphenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2-Nitroaniline	ND		230	µg/Kg	1	2/10/2022 10:08 PM
2-Nitrophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
3&4-Methylphenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
3,3'-Dichlorobenzidine	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
3-Nitroaniline	ND		230	µg/Kg	1	2/10/2022 10:08 PM
4,6-Dinitro-2-methylphenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
4-Bromophenyl phenyl ether	ND		230	µg/Kg	1	2/10/2022 10:08 PM
4-Chloro-3-methylphenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
4-Chloroaniline	ND		470	µg/Kg	1	2/10/2022 10:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-81 (2-3')
 Collection Date: 2/7/2022 02:15 PM

Work Order: 22020447
 Lab ID: 22020447-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		230	µg/Kg	1	2/10/2022 10:08 PM
4-Nitroaniline	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
4-Nitrophenol	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
Acenaphthene	1,300		47	µg/Kg	1	2/10/2022 10:08 PM
Acenaphthylene	500		47	µg/Kg	1	2/10/2022 10:08 PM
Acetophenone	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Anthracene	12,000		47	µg/Kg	1	2/10/2022 10:08 PM
Atrazine	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Benzaldehyde	ND		470	µg/Kg	1	2/10/2022 10:08 PM
Benzo(a)anthracene	17,000		47	µg/Kg	1	2/10/2022 10:08 PM
Benzo(a)pyrene	14,000		47	µg/Kg	1	2/10/2022 10:08 PM
Benzo(b)fluoranthene	18,000		47	µg/Kg	1	2/10/2022 10:08 PM
Benzo(g,h,i)perylene	8,100		47	µg/Kg	1	2/10/2022 10:08 PM
Benzo(k)fluoranthene	7,300		47	µg/Kg	1	2/10/2022 10:08 PM
Bis(2-chloroethoxy)methane	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Bis(2-chloroethyl)ether	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Bis(2-ethylhexyl)phthalate	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Butyl benzyl phthalate	ND		470	µg/Kg	1	2/10/2022 10:08 PM
Caprolactam	ND		470	µg/Kg	1	2/10/2022 10:08 PM
Carbazole	1,900		230	µg/Kg	1	2/10/2022 10:08 PM
Chrysene	17,000		47	µg/Kg	1	2/10/2022 10:08 PM
Dibenzo(a,h)anthracene	1,800		47	µg/Kg	1	2/10/2022 10:08 PM
Dibenzofuran	2,500		230	µg/Kg	1	2/10/2022 10:08 PM
Diethyl phthalate	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Dimethyl phthalate	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Di-n-butyl phthalate	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Di-n-octyl phthalate	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Fluoranthene	55,000		470	µg/Kg	10	2/14/2022 04:22 PM
Fluorene	4,700		47	µg/Kg	1	2/10/2022 10:08 PM
Hexachlorobenzene	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Hexachlorobutadiene	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Hexachlorocyclopentadiene	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Hexachloroethane	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Indeno(1,2,3-cd)pyrene	11,000		47	µg/Kg	1	2/10/2022 10:08 PM
Isophorone	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
Naphthalene	1,400		47	µg/Kg	1	2/10/2022 10:08 PM
Nitrobenzene	ND		1,200	µg/Kg	1	2/10/2022 10:08 PM
N-Nitrosodi-n-propylamine	ND		230	µg/Kg	1	2/10/2022 10:08 PM
N-Nitrosodiphenylamine	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Pentachlorophenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-81 (2-3')
Collection Date: 2/7/2022 02:15 PM

Work Order: 22020447
Lab ID: 22020447-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	49,000		470	µg/Kg	10	2/14/2022 04:22 PM
Phenol	ND		230	µg/Kg	1	2/10/2022 10:08 PM
Pyrene	42,000		470	µg/Kg	10	2/14/2022 04:22 PM
Surr: 2,4,6-Tribromophenol	78.5		38-92	%REC	1	2/10/2022 10:08 PM
Surr: 2-Fluorobiphenyl	78.1		44-107	%REC	1	2/10/2022 10:08 PM
Surr: 2-Fluorophenol	72.9		37-109	%REC	1	2/10/2022 10:08 PM
Surr: 4-Terphenyl-d14	71.9		52-123	%REC	1	2/10/2022 10:08 PM
Surr: Nitrobenzene-d5	70.7		41-94	%REC	1	2/10/2022 10:08 PM
Surr: Phenol-d6	81.4		28-111	%REC	1	2/10/2022 10:08 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C	Prep: SW5035A 2/8/22 10:01		Analyst: MF
1,1,1,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1,2-Trichlorotrifluoroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2,3-Trichloropropane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2,4-Trichlorobenzene	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2,4-Trimethylbenzene	900		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2-Dibromo-3-chloropropane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2-Dibromoethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2-Dichloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,3,5-Trimethylbenzene	260		120	µg/Kg-dry	1	2/8/2022 04:41 PM
1,3-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
1,4-Dichlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/8/2022 04:41 PM
2-Hexanone	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
2-Methylnaphthalene	1,100		120	µg/Kg-dry	1	2/8/2022 04:41 PM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Acetone	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
Acrylonitrile	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
Benzene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Bromochloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Bromodichloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Bromoform	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Bromomethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-81 (2-3')
Collection Date: 2/7/2022 02:15 PM

Work Order: 22020447
Lab ID: 22020447-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Chlorobenzene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Chloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
Chloroform	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Chloromethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Dibromochloromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Dibromomethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Dichlorodifluoromethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
Diethyl ether	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Ethylbenzene	79		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Hexachloroethane	ND		120	µg/Kg-dry	1	2/8/2022 04:41 PM
Isopropylbenzene	45		35	µg/Kg-dry	1	2/8/2022 04:41 PM
m,p-Xylene	110		70	µg/Kg-dry	1	2/8/2022 04:41 PM
Methyl iodide	ND		580	µg/Kg-dry	1	2/8/2022 04:41 PM
Methyl tert-butyl ether	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Methylene chloride	ND		290	µg/Kg-dry	1	2/8/2022 04:41 PM
Naphthalene	1,100		120	µg/Kg-dry	1	2/8/2022 04:41 PM
n-Propylbenzene	100		35	µg/Kg-dry	1	2/8/2022 04:41 PM
o-Xylene	44		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Styrene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Tetrachloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Toluene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Trichloroethene	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Trichlorofluoromethane	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Vinyl acetate	ND		290	µg/Kg-dry	1	2/8/2022 04:41 PM
Vinyl chloride	ND		35	µg/Kg-dry	1	2/8/2022 04:41 PM
Xylenes, Total	150		100	µg/Kg-dry	1	2/8/2022 04:41 PM
Surr: 1,2-Dichloroethane-d4	117		70-130	%REC	1	2/8/2022 04:41 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	2/8/2022 04:41 PM
Surr: Dibromofluoromethane	98.5		70-130	%REC	1	2/8/2022 04:41 PM
Surr: Toluene-d8	104		70-130	%REC	1	2/8/2022 04:41 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: DUP-04
 Collection Date: 2/7/2022 08:00 AM

Work Order: 22020447
 Lab ID: 22020447-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B	Prep: SW7471 2/10/22 10:49		Analyst: DSC
Mercury	0.029		0.018	mg/Kg	1	2/11/2022 12:27 PM
METALS BY ICP-MS			SW6020B	Prep: SW3050B 2/9/22 12:10		Analyst: DSC
Arsenic	6.1		0.37	mg/Kg	1	2/9/2022 08:35 PM
Barium	79		0.37	mg/Kg	1	2/9/2022 08:35 PM
Cadmium	ND		0.15	mg/Kg	1	2/9/2022 08:35 PM
Chromium	17		0.37	mg/Kg	1	2/9/2022 08:35 PM
Copper	12		0.37	mg/Kg	1	2/9/2022 08:35 PM
Lead	8.0		0.37	mg/Kg	1	2/9/2022 08:35 PM
Selenium	ND		0.37	mg/Kg	1	2/9/2022 08:35 PM
Silver	ND		0.37	mg/Kg	1	2/9/2022 08:35 PM
Zinc	43		7.4	mg/Kg	10	2/10/2022 01:38 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 2/10/22 11:05		Analyst: EEW
1,1'-Biphenyl	ND		33	µg/Kg	1	2/10/2022 10:28 PM
1,2,4,5-Tetrachlorobenzene	ND		170	µg/Kg	1	2/10/2022 10:28 PM
1,4-Dioxane	ND		170	µg/Kg	1	2/10/2022 10:28 PM
2,2'-Oxybis(1-chloropropane)	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,3,4,6-Tetrachlorophenol	ND		67	µg/Kg	1	2/10/2022 10:28 PM
2,4,5-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,4,6-Trichlorophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,4-Dichlorophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,4-Dimethylphenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,4-Dinitrophenol	ND		660	µg/Kg	1	2/10/2022 10:28 PM
2,4-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2,6-Dinitrotoluene	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2-Chloronaphthalene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
2-Chlorophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2-Methylnaphthalene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
2-Methylphenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 10:28 PM
2-Nitrophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
3&4-Methylphenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
3,3'-Dichlorobenzidine	ND		170	µg/Kg	1	2/10/2022 10:28 PM
3-Nitroaniline	ND		33	µg/Kg	1	2/10/2022 10:28 PM
4,6-Dinitro-2-methylphenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
4-Bromophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 10:28 PM
4-Chloro-3-methylphenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
4-Chloroaniline	ND		67	µg/Kg	1	2/10/2022 10:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: DUP-04
 Collection Date: 2/7/2022 08:00 AM

Work Order: 22020447
 Lab ID: 22020447-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		33	µg/Kg	1	2/10/2022 10:28 PM
4-Nitroaniline	ND		170	µg/Kg	1	2/10/2022 10:28 PM
4-Nitrophenol	ND		170	µg/Kg	1	2/10/2022 10:28 PM
Acenaphthene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Acenaphthylene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Acetophenone	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Anthracene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Atrazine	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Benzaldehyde	ND		67	µg/Kg	1	2/10/2022 10:28 PM
Benzo(a)anthracene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Benzo(a)pyrene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Benzo(b)fluoranthene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Benzo(g,h,i)perylene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Benzo(k)fluoranthene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Bis(2-chloroethoxy)methane	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Bis(2-chloroethyl)ether	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Bis(2-ethylhexyl)phthalate	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Butyl benzyl phthalate	ND		67	µg/Kg	1	2/10/2022 10:28 PM
Caprolactam	ND		67	µg/Kg	1	2/10/2022 10:28 PM
Carbazole	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Chrysene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Dibenzo(a,h)anthracene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Dibenzofuran	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Diethyl phthalate	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Dimethyl phthalate	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Di-n-butyl phthalate	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Di-n-octyl phthalate	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Fluoranthene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Fluorene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Hexachlorobenzene	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Hexachlorobutadiene	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Hexachlorocyclopentadiene	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Hexachloroethane	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Indeno(1,2,3-cd)pyrene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Isophorone	ND		170	µg/Kg	1	2/10/2022 10:28 PM
Naphthalene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Nitrobenzene	ND		170	µg/Kg	1	2/10/2022 10:28 PM
N-Nitrosodi-n-propylamine	ND		33	µg/Kg	1	2/10/2022 10:28 PM
N-Nitrosodiphenylamine	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Pentachlorophenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: DUP-04
 Collection Date: 2/7/2022 08:00 AM

Work Order: 22020447
 Lab ID: 22020447-10
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Phenol	ND		33	µg/Kg	1	2/10/2022 10:28 PM
Pyrene	ND		6.6	µg/Kg	1	2/10/2022 10:28 PM
Surr: 2,4,6-Tribromophenol	45.2		38-92	%REC	1	2/10/2022 10:28 PM
Surr: 2-Fluorobiphenyl	49.2		44-107	%REC	1	2/10/2022 10:28 PM
Surr: 2-Fluorophenol	65.2		37-109	%REC	1	2/10/2022 10:28 PM
Surr: 4-Terphenyl-d14	38.4	S	52-123	%REC	1	2/10/2022 10:28 PM
Surr: Nitrobenzene-d5	54.4		41-94	%REC	1	2/10/2022 10:28 PM
Surr: Phenol-d6	68.5		28-111	%REC	1	2/10/2022 10:28 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Prep: SW5035A 2/8/22 10:01

Analyst: MF

1,1,1,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1,1-Trichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1,2,2-Tetrachloroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1,2-Trichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1,2-Trichlorotrifluoroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1-Dichloroethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,1-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2,3-Trichloropropane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2,4-Trichlorobenzene	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2,4-Trimethylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2-Dibromo-3-chloropropane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2-Dibromoethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2-Dichloroethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
1,2-Dichloropropane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,3,5-Trimethylbenzene	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
1,3-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
1,4-Dichlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
2-Butanone	ND		230	µg/Kg-dry	1	2/8/2022 05:00 PM
2-Hexanone	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
2-Methylnaphthalene	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
4-Methyl-2-pentanone	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Acetone	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
Acrylonitrile	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
Benzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Bromochloromethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Bromodichloromethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Bromoform	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Bromomethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: DUP-04
Collection Date: 2/7/2022 08:00 AM

Work Order: 22020447
Lab ID: 22020447-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Carbon tetrachloride	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Chlorobenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Chloroethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
Chloroform	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Chloromethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
cis-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
cis-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Dibromochloromethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Dibromomethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Dichlorodifluoromethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
Diethyl ether	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Hexachloroethane	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
Isopropylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
m,p-Xylene	ND		68	µg/Kg-dry	1	2/8/2022 05:00 PM
Methyl iodide	ND		560	µg/Kg-dry	1	2/8/2022 05:00 PM
Methyl tert-butyl ether	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Methylene chloride	ND		280	µg/Kg-dry	1	2/8/2022 05:00 PM
Naphthalene	ND		110	µg/Kg-dry	1	2/8/2022 05:00 PM
n-Propylbenzene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
o-Xylene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Styrene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Tetrachloroethene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Toluene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
trans-1,2-Dichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
trans-1,3-Dichloropropene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
trans-1,4-Dichloro-2-butene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Trichloroethene	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Trichlorofluoromethane	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Vinyl acetate	ND		280	µg/Kg-dry	1	2/8/2022 05:00 PM
Vinyl chloride	ND		34	µg/Kg-dry	1	2/8/2022 05:00 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	2/8/2022 05:00 PM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	2/8/2022 05:00 PM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	2/8/2022 05:00 PM
Surr: Dibromofluoromethane	99.3		70-130	%REC	1	2/8/2022 05:00 PM
Surr: Toluene-d8	103		70-130	%REC	1	2/8/2022 05:00 PM

MOISTURE **SW3550C** Analyst: **ALG**
Moisture **16** **0.10** **% of sample** **1** **2/10/2022 12:41 PM**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191549 Instrument ID HG4 Method: SW7471B

MBLK		Sample ID: MBLK-191549-191549				Units: mg/Kg		Analysis Date: 2/11/2022 11:48 AM		
Client ID:		Run ID: HG4_220211A				SeqNo: 8168807		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-191549-191549				Units: mg/Kg		Analysis Date: 2/11/2022 11:50 AM		
Client ID:		Run ID: HG4_220211A				SeqNo: 8168808		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1617 0.020 0.1665 0 97.1 80-120 0

MS		Sample ID: 22020447-06BMS				Units: mg/Kg		Analysis Date: 2/11/2022 12:19 PM		
Client ID: SB-78 (1-2')		Run ID: HG4_220211A				SeqNo: 8168824		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1732 0.019 0.1573 0.015 101 75-125 0

MSD		Sample ID: 22020447-06BMSD				Units: mg/Kg		Analysis Date: 2/11/2022 12:20 PM		
Client ID: SB-78 (1-2')		Run ID: HG4_220211A				SeqNo: 8168825		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1765 0.019 0.1588 0.015 102 75-125 0.1732 1.85 35

The following samples were analyzed in this batch:

22020447-01B	22020447-02B	22020447-03B
22020447-04B	22020447-05B	22020447-06B
22020447-07B	22020447-08B	22020447-09B
22020447-10B		

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191509 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191509-191509				Units: mg/Kg		Analysis Date: 2/9/2022 07:48 PM		
Client ID:		Run ID: ICPMS4_220209B			SeqNo: 8163890		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	0.1664	0.25								J
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-191509-191509				Units: mg/Kg		Analysis Date: 2/9/2022 07:49 PM		
Client ID:		Run ID: ICPMS4_220209B			SeqNo: 8163891		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.579	0.25	5	0	91.6	80-120	0			
Barium	4.866	0.25	5	0	97.3	80-120	0			
Cadmium	4.888	0.10	5	0	97.8	80-120	0			
Chromium	5.004	0.25	5	0	100	80-120	0			
Copper	4.946	0.25	5	0	98.9	80-120	0			
Lead	4.814	0.25	5	0	96.3	80-120	0			
Selenium	4.66	0.25	5	0	93.2	80-120	0			
Silver	4.615	0.25	5	0	92.3	80-120	0			
Zinc	4.963	0.50	5	0	99.3	80-120	0			

MS		Sample ID: 22011889-01AMS				Units: mg/Kg		Analysis Date: 2/9/2022 07:53 PM		
Client ID:		Run ID: ICPMS4_220209B			SeqNo: 8163893		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.65	0.40	8.052	5.808	72.6	75-125	0			S
Barium	175.4	0.40	8.052	126.1	612	75-125	0			SEO
Cadmium	5.819	0.16	8.052	0.1075	70.9	75-125	0			S
Chromium	16.07	0.40	8.052	7.996	100	75-125	0			
Copper	20.6	0.40	8.052	16.3	53.4	75-125	0			S
Lead	26.24	0.40	8.052	22.64	44.8	75-125	0			S
Selenium	6.467	0.40	8.052	0.9547	68.5	75-125	0			S
Silver	5.394	0.40	8.052	0.03902	66.5	75-125	0			S
Zinc	43.8	0.81	8.052	43.45	4.36	75-125	0			SO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191509 Instrument ID ICPMS4 Method: SW6020B

MSD		Sample ID: 22011889-01AMSD				Units: mg/Kg		Analysis Date: 2/9/2022 07:55 PM		
Client ID:		Run ID: ICPMS4_220209B			SeqNo: 8163894		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.51	0.42	8.306	5.808	105	75-125	11.65	21.9	20	R
Barium	188.6	0.42	8.306	126.1	752	75-125	175.4	7.21	20	SEO
Cadmium	6.96	0.17	8.306	0.1075	82.5	75-125	5.819	17.8	20	
Chromium	20.62	0.42	8.306	7.996	152	75-125	16.07	24.8	20	SR
Copper	25.72	0.42	8.306	16.3	113	75-125	20.6	22.1	20	R
Lead	34.94	0.42	8.306	22.64	148	75-125	26.24	28.4	20	SR
Selenium	8.199	0.42	8.306	0.9547	87.2	75-125	6.467	23.6	20	R
Silver	6.448	0.42	8.306	0.03902	77.2	75-125	5.394	17.8	20	
Zinc	57.49	0.83	8.306	43.45	169	75-125	43.8	27	20	SRO

The following samples were analyzed in this batch:

22020447-01B	22020447-02B	22020447-03B
22020447-04B	22020447-05B	22020447-06B
22020447-07B	22020447-08B	22020447-09B
22020447-10B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566 Instrument ID SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-191566-191566			Units: µg/Kg		Analysis Date: 2/10/2022 05:00 PM			
Client ID:		Run ID: SVMS8_220210A			SeqNo: 8171177		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	33								
1,2,4,5-Tetrachlorobenzene	ND	170								
1,4-Dioxane	ND	170								
2,2'-Oxybis(1-chloropropane)	ND	33								
2,3,4,6-Tetrachlorophenol	ND	67								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	670								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3'-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	170								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020447
Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566	Instrument ID SVMS8	Method: SW846 8270D					
Butyl benzyl phthalate	ND	67					
Caprolactam	ND	67					
Carbazole	ND	33					
Chrysene	ND	6.7					
Dibenzo(a,h)anthracene	ND	6.7					
Dibenzofuran	ND	33					
Diethyl phthalate	ND	33					
Dimethyl phthalate	ND	33					
Di-n-butyl phthalate	ND	33					
Di-n-octyl phthalate	ND	33					
Fluoranthene	ND	6.7					
Fluorene	ND	6.7					
Hexachlorobenzene	ND	33					
Hexachlorobutadiene	ND	33					
Hexachlorocyclopentadiene	ND	33					
Hexachloroethane	ND	33					
Indeno(1,2,3-cd)pyrene	ND	6.7					
Isophorone	ND	170					
Naphthalene	ND	6.7					
Nitrobenzene	ND	170					
N-Nitrosodi-n-propylamine	ND	33					
N-Nitrosodiphenylamine	ND	33					
Pentachlorophenol	ND	33					
Phenanthrene	ND	6.7					
Phenol	ND	33					
Pyrene	ND	6.7					
<i>Surr: 2,4,6-Tribromophenol</i>	2353	0	3333	0	70.6	38-92	0
<i>Surr: 2-Fluorobiphenyl</i>	2543	0	3333	0	76.3	44-107	0
<i>Surr: 2-Fluorophenol</i>	2340	0	3333	0	70.2	37-109	0
<i>Surr: 4-Terphenyl-d14</i>	2635	0	3333	0	79	52-123	0
<i>Surr: Nitrobenzene-d5</i>	2384	0	3333	0	71.5	41-94	0
<i>Surr: Phenol-d6</i>	2606	0	3333	0	78.2	28-111	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566 Instrument ID SVMS8 Method: SW846 8270D

LCS				Sample ID: SLCSS1-191566-191566		Units: µg/Kg		Analysis Date: 2/10/2022 05:20 PM		
Client ID:		Run ID: SVMS8_220210A		SeqNo: 8171178		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1059	33	1333	0	79.4	53-97	0			
1,2,4,5-Tetrachlorobenzene	1015	170	1333	0	76.2	51-96	0			
2,2'-Oxybis(1-chloropropane)	1084	33	1333	0	81.3	47-107	0			
2,3,4,6-Tetrachlorophenol	975.3	67	1333	0	73.2	51-110	0			
2,4,5-Trichlorophenol	971.3	33	1333	0	72.9	52-111	0			
2,4,6-Trichlorophenol	1044	33	1333	0	78.3	46-105	0			
2,4-Dichlorophenol	1029	33	1333	0	77.2	47-96	0			
2,4-Dimethylphenol	1079	33	1333	0	80.9	49-97	0			
2,4-Dinitrophenol	608	670	1333	0	45.6	10-106	0			J
2,4-Dinitrotoluene	1048	33	1333	0	78.6	58-110	0			
2,6-Dinitrotoluene	1045	33	1333	0	78.4	59-108	0			
2-Chloronaphthalene	1115	6.7	1333	0	83.6	56-104	0			
2-Chlorophenol	1055	33	1333	0	79.2	50-104	0			
2-Methylnaphthalene	1095	6.7	1333	0	82.2	54-96	0			
2-Methylphenol	1065	33	1333	0	79.9	49-105	0			
2-Nitroaniline	1107	33	1333	0	83	54-107	0			
2-Nitrophenol	1056	33	1333	0	79.2	51-94	0			
3&4-Methylphenol	1076	33	1333	0	80.7	48-105	0			
3,3'-Dichlorobenzidine	826.7	170	1333	0	62	39-99	0			
3-Nitroaniline	1029	33	1333	0	77.2	17-92	0			
4,6-Dinitro-2-methylphenol	921.3	33	1333	0	69.1	32-103	0			
4-Bromophenyl phenyl ether	1151	33	1333	0	86.4	60-106	0			
4-Chloro-3-methylphenol	1058	33	1333	0	79.4	51-101	0			
4-Chloroaniline	736.7	67	1333	0	55.3	27-110	0			
4-Chlorophenyl phenyl ether	1045	33	1333	0	78.4	58-106	0			
4-Nitroaniline	1012	170	1333	0	75.9	21-100	0			
4-Nitrophenol	976	170	1333	0	73.2	29-120	0			
Acenaphthene	1041	6.7	1333	0	78.1	55-101	0			
Acenaphthylene	1077	6.7	1333	0	80.8	59-106	0			
Acetophenone	1079	33	1333	0	80.9	51-100	0			
Anthracene	1144	6.7	1333	0	85.8	67-105	0			
Atrazine	1009	33	1333	0	75.7	45-125	0			
Benzaldehyde	1056	67	1333	0	79.2	10-120	0			
Benzo(a)anthracene	1082	6.7	1333	0	81.2	68-105	0			
Benzo(a)pyrene	1121	6.7	1333	0	84.1	68-110	0			
Benzo(b)fluoranthene	1099	6.7	1333	0	82.4	65-110	0			
Benzo(g,h,i)perylene	1153	6.7	1333	0	86.5	60-120	0			
Benzo(k)fluoranthene	1172	6.7	1333	0	87.9	66-113	0			
Bis(2-chloroethoxy)methane	1100	33	1333	0	82.5	53-96	0			
Bis(2-chloroethyl)ether	1075	33	1333	0	80.7	47-108	0			
Bis(2-ethylhexyl)phthalate	1012	33	1333	0	75.9	59-117	0			
Butyl benzyl phthalate	998	67	1333	0	74.9	59-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566	Instrument ID SVMS8		Method: SW846 8270D					
Caprolactam	938	67	1333	0	70.4	42-105	0	
Carbazole	1119	33	1333	0	83.9	67-108	0	
Chrysene	1159	6.7	1333	0	86.9	68-108	0	
Dibenzo(a,h)anthracene	1118	6.7	1333	0	83.9	62-119	0	
Dibenzofuran	1090	33	1333	0	81.8	60-104	0	
Diethyl phthalate	1080	33	1333	0	81	62-111	0	
Dimethyl phthalate	1071	33	1333	0	80.4	62-106	0	
Di-n-butyl phthalate	1049	33	1333	0	78.7	59-105	0	
Di-n-octyl phthalate	966.7	33	1333	0	72.5	51-123	0	
Fluoranthene	1087	6.7	1333	0	81.6	67-106	0	
Fluorene	1055	6.7	1333	0	79.2	59-107	0	
Hexachlorobenzene	1134	33	1333	0	85.1	62-103	0	
Hexachlorobutadiene	1071	33	1333	0	80.3	51-94	0	
Hexachlorocyclopentadiene	1115	33	1333	0	83.7	25-120	0	
Hexachloroethane	1063	33	1333	0	79.7	55-93	0	
Indeno(1,2,3-cd)pyrene	1168	6.7	1333	0	87.6	56-120	0	
Isophorone	1105	170	1333	0	82.9	52-99	0	
Naphthalene	1075	6.7	1333	0	80.6	46-98	0	
Nitrobenzene	1109	170	1333	0	83.2	53-95	0	
N-Nitrosodi-n-propylamine	1055	33	1333	0	79.2	50-104	0	
N-Nitrosodiphenylamine	1169	33	1333	0	87.7	63-107	0	
Pentachlorophenol	911.3	33	1333	0	68.4	34-106	0	
Phenanthrene	1151	6.7	1333	0	86.4	66-101	0	
Phenol	1086	33	1333	0	81.5	44-109	0	
Pyrene	1187	6.7	1333	0	89	60-119	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2757	0	3333	0	82.7	38-92	0	
<i>Surr: 2-Fluorobiphenyl</i>	2739	0	3333	0	82.2	44-107	0	
<i>Surr: 2-Fluorophenol</i>	2560	0	3333	0	76.8	37-109	0	
<i>Surr: 4-Terphenyl-d14</i>	2855	0	3333	0	85.7	52-123	0	
<i>Surr: Nitrobenzene-d5</i>	2726	0	3333	0	81.8	41-94	0	
<i>Surr: Phenol-d6</i>	2789	0	3333	0	83.7	28-111	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566 Instrument ID SVMS8 Method: SW846 8270D

MS				Sample ID: 22020447-06B MS		Units: µg/Kg		Analysis Date: 2/10/2022 06:42 PM		
Client ID: SB-78 (1-2')			Run ID: SVMS8_220210A		SeqNo: 8171182		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1953	32	1300	1012	72.4	53-97	0			
1,2,4,5-Tetrachlorobenzene	966.2	160	1300	0	74.3	51-96	0			
2,2'-Oxybis(1-chloropropane)	1042	32	1300	0	80.1	47-107	0			
2,3,4,6-Tetrachlorophenol	1096	65	1300	0	84.3	51-110	0			
2,4,5-Trichlorophenol	958.4	32	1300	0	73.7	52-111	0			
2,4,6-Trichlorophenol	911.6	32	1300	0	70.1	46-105	0			
2,4-Dichlorophenol	1417	32	1300	0	109	47-96	0			S
2,4-Dimethylphenol	1499	32	1300	0	115	49-97	0			S
2,4-Dinitrophenol	448.6	650	1300	0	34.5	10-106	0			J
2,4-Dinitrotoluene	1533	32	1300	0	118	58-110	0			S
2,6-Dinitrotoluene	1103	32	1300	0	84.8	59-108	0			
2-Chloronaphthalene	960.3	6.5	1300	0	73.9	56-104	0			
2-Chlorophenol	1016	32	1300	0	78.2	50-104	0			
2-Methylnaphthalene	5562	6.5	1300	4641	70.9	54-96	0			E
2-Methylphenol	1051	32	1300	0	80.9	49-105	0			
2-Nitroaniline	1344	32	1300	0	103	54-107	0			
2-Nitrophenol	1336	32	1300	0	103	51-94	0			S
3&4-Methylphenol	1044	32	1300	0	80.3	48-105	0			
3,3'-Dichlorobenzidine	702.2	160	1300	0	54	39-99	0			
3-Nitroaniline	1017	32	1300	0	78.2	17-92	0			
4,6-Dinitro-2-methylphenol	860.9	32	1300	0	66.2	32-103	0			
4-Bromophenyl phenyl ether	1068	32	1300	0	82.1	60-106	0			
4-Chloro-3-methylphenol	1167	32	1300	0	89.8	51-101	0			
4-Chloroaniline	581.9	65	1300	0	44.8	27-110	0			
4-Chlorophenyl phenyl ether	1120	32	1300	0	86.2	58-106	0			
4-Nitroaniline	988.9	160	1300	0	76.1	21-100	0			
4-Nitrophenol	1587	160	1300	0	122	29-120	0			S
Acenaphthene	1040	6.5	1300	0	80	55-101	0			
Acenaphthylene	1080	6.5	1300	0	83.1	59-106	0			
Acetophenone	1734	32	1300	791.6	72.5	51-100	0			
Anthracene	1115	6.5	1300	17.07	84.5	67-105	0			
Atrazine	1336	32	1300	0	103	45-125	0			
Benzaldehyde	1173	65	1300	0	90.2	10-120	0			
Benzo(a)anthracene	1057	6.5	1300	32.82	78.7	68-105	0			
Benzo(a)pyrene	1095	6.5	1300	26.26	82.2	68-110	0			
Benzo(b)fluoranthene	1093	6.5	1300	45.29	80.6	65-110	0			
Benzo(g,h,i)perylene	1138	6.5	1300	34.13	84.9	60-120	0			
Benzo(k)fluoranthene	1064	6.5	1300	21	80.2	66-113	0			
Bis(2-chloroethoxy)methane	1157	32	1300	0	89	53-96	0			
Bis(2-chloroethyl)ether	1120	32	1300	0	86.2	47-108	0			
Bis(2-ethylhexyl)phthalate	1128	32	1300	0	86.8	59-117	0			
Butyl benzyl phthalate	1153	65	1300	0	88.7	59-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566	Instrument ID SVMS8		Method: SW846 8270D						
Caprolactam	6033	65	1300	0	464	42-105	0	SE	
Carbazole	1021	32	1300	0	78.6	67-108	0		
Chrysene	1101	6.5	1300	26.91	82.7	68-108	0		
Dibenzo(a,h)anthracene	1088	6.5	1300	7.22	83.1	62-119	0		
Dibenzofuran	1498	32	1300	527.7	74.6	60-104	0		
Diethyl phthalate	1093	32	1300	0	84.1	62-111	0		
Dimethyl phthalate	823.8	32	1300	0	63.4	62-106	0		
Di-n-butyl phthalate	1142	32	1300	0	87.8	59-105	0		
Di-n-octyl phthalate	1159	32	1300	0	89.1	51-123	0		
Fluoranthene	1094	6.5	1300	56.45	79.8	67-106	0		
Fluorene	1299	6.5	1300	0	99.9	59-107	0		
Hexachlorobenzene	1008	32	1300	0	77.6	62-103	0		
Hexachlorobutadiene	1150	32	1300	0	88.5	51-94	0		
Hexachlorocyclopentadiene	946.7	32	1300	0	72.8	25-120	0		
Hexachloroethane	1640	32	1300	0	126	55-93	0	S	
Indeno(1,2,3-cd)pyrene	1192	6.5	1300	43.32	88.3	56-120	0		
Isophorone	1596	160	1300	0	123	52-99	0	S	
Naphthalene	2740	6.5	1300	1693	80.5	46-98	0		
Nitrobenzene	1285	160	1300	0	98.9	53-95	0	S	
N-Nitrosodi-n-propylamine	1519	32	1300	0	117	50-104	0	S	
N-Nitrosodiphenylamine	1589	32	1300	0	122	63-107	0	S	
Pentachlorophenol	970.7	32	1300	0	74.7	34-106	0		
Phenanthrene	1239	6.5	1300	188.4	80.8	66-101	0		
Phenol	1074	32	1300	0	82.6	44-109	0		
Pyrene	1207	6.5	1300	55.14	88.6	60-119	0		
<i>Surr: 2,4,6-Tribromophenol</i>	2492	0	3251	0	76.7	38-92	0		
<i>Surr: 2-Fluorobiphenyl</i>	2520	0	3251	0	77.5	44-107	0		
<i>Surr: 2-Fluorophenol</i>	2605	0	3251	0	80.1	37-109	0		
<i>Surr: 4-Terphenyl-d14</i>	2780	0	3251	0	85.5	52-123	0		
<i>Surr: Nitrobenzene-d5</i>	3116	0	3251	0	95.9	41-94	0	S	
<i>Surr: Phenol-d6</i>	2774	0	3251	0	85.3	28-111	0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566 Instrument ID SVMS8 Method: SW846 8270D

MSD				Sample ID: 22020447-06B MSD			Units: µg/Kg		Analysis Date: 2/10/2022 07:03 PM		
Client ID: SB-78 (1-2')		Run ID: SVMS8_220210A		SeqNo: 8171183		Prep Date: 2/10/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	1970	32	1295	1012	74	53-97	1953	0.88	30		
1,2,4,5-Tetrachlorobenzene	935.4	160	1295	0	72.2	51-96	966.2	3.24	30		
2,2'-Oxybis(1-chloropropane)	973.6	32	1295	0	75.2	47-107	1042	6.75	30		
2,3,4,6-Tetrachlorophenol	1006	65	1295	0	77.7	51-110	1096	8.59	30		
2,4,5-Trichlorophenol	1004	32	1295	0	77.5	52-111	958.4	4.65	30		
2,4,6-Trichlorophenol	940.5	32	1295	0	72.6	46-105	911.6	3.13	30		
2,4-Dichlorophenol	1272	32	1295	0	98.2	47-96	1417	10.8	30	S	
2,4-Dimethylphenol	1423	32	1295	0	110	49-97	1499	5.17	30	S	
2,4-Dinitrophenol	300.6	650	1295	0	23.2	10-106	448.6	0	30	J	
2,4-Dinitrotoluene	1486	32	1295	0	115	58-110	1533	3.09	30	S	
2,6-Dinitrotoluene	1003	32	1295	0	77.4	59-108	1103	9.5	30		
2-Chloronaphthalene	932.1	6.5	1295	0	72	56-104	960.3	2.98	30		
2-Chlorophenol	994.9	32	1295	0	76.8	50-104	1016	2.12	30		
2-Methylnaphthalene	5791	6.5	1295	4641	88.8	54-96	5562	4.02	30	E	
2-Methylphenol	1016	32	1295	0	78.4	49-105	1051	3.45	30		
2-Nitroaniline	1230	32	1295	0	95	54-107	1344	8.85	30		
2-Nitrophenol	1301	32	1295	0	100	51-94	1336	2.59	30	S	
3&4-Methylphenol	1010	32	1295	0	78	48-105	1044	3.22	30		
3,3'-Dichlorobenzidine	697	160	1295	0	53.8	39-99	702.2	0.748	30		
3-Nitroaniline	976.8	32	1295	0	75.4	17-92	1017	4.02	30		
4,6-Dinitro-2-methylphenol	719	32	1295	0	55.5	32-103	860.9	18	30		
4-Bromophenyl phenyl ether	1071	32	1295	0	82.7	60-106	1068	0.291	30		
4-Chloro-3-methylphenol	1138	32	1295	0	87.9	51-101	1167	2.52	30		
4-Chloroaniline	653.6	65	1295	0	50.5	27-110	581.9	11.6	30		
4-Chlorophenyl phenyl ether	1060	32	1295	0	81.8	58-106	1120	5.56	30		
4-Nitroaniline	939.2	160	1295	0	72.5	21-100	988.9	5.16	30		
4-Nitrophenol	1499	160	1295	0	116	29-120	1587	5.72	30		
Acenaphthene	1002	6.5	1295	0	77.4	55-101	1040	3.74	30		
Acenaphthylene	1057	6.5	1295	0	81.6	59-106	1080	2.14	30		
Acetophenone	1651	32	1295	791.6	66.4	51-100	1734	4.9	30		
Anthracene	1107	6.5	1295	17.07	84.2	67-105	1115	0.726	30		
Atrazine	1235	32	1295	0	95.3	45-125	1336	7.85	30		
Benzaldehyde	1130	65	1295	0	87.2	10-120	1173	3.76	30		
Benzo(a)anthracene	1034	6.5	1295	32.82	77.3	68-105	1057	2.18	30		
Benzo(a)pyrene	1075	6.5	1295	26.26	81	68-110	1095	1.81	30		
Benzo(b)fluoranthene	1031	6.5	1295	45.29	76.1	65-110	1093	5.88	30		
Benzo(g,h,i)perylene	1149	6.5	1295	34.13	86.1	60-120	1138	0.986	30		
Benzo(k)fluoranthene	1051	6.5	1295	21	79.5	66-113	1064	1.24	30		
Bis(2-chloroethoxy)methane	1124	32	1295	0	86.8	53-96	1157	2.88	30		
Bis(2-chloroethyl)ether	1045	32	1295	0	80.7	47-108	1120	6.97	30		
Bis(2-ethylhexyl)phthalate	1069	32	1295	0	82.5	59-117	1128	5.4	30		
Butyl benzyl phthalate	1095	65	1295	0	84.6	59-106	1153	5.17	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191566	Instrument ID SVMS8		Method: SW846 8270D							
Caprolactam	5627	65	1295	0	434	42-105	6033	6.96	30	SE
Carbazole	1047	32	1295	0	80.9	67-108	1021	2.51	30	
Chrysene	1073	6.5	1295	26.91	80.7	68-108	1101	2.64	30	
Dibenzo(a,h)anthracene	1113	6.5	1295	7.22	85.4	62-119	1088	2.34	30	
Dibenzofuran	1512	32	1295	527.7	76	60-104	1498	0.96	30	
Diethyl phthalate	1042	32	1295	0	80.4	62-111	1093	4.82	30	
Dimethyl phthalate	819.4	32	1295	0	63.3	62-106	823.8	0.534	30	
Di-n-butyl phthalate	1065	32	1295	0	82.2	59-105	1142	6.96	30	
Di-n-octyl phthalate	1071	32	1295	0	82.7	51-123	1159	7.83	30	
Fluoranthene	1081	6.5	1295	56.45	79.1	67-106	1094	1.21	30	
Fluorene	1237	6.5	1295	0	95.5	59-107	1299	4.88	30	
Hexachlorobenzene	1029	32	1295	0	79.4	62-103	1008	1.98	30	
Hexachlorobutadiene	1099	32	1295	0	84.9	51-94	1150	4.53	30	
Hexachlorocyclopentadiene	949.6	32	1295	0	73.3	25-120	946.7	0.308	30	
Hexachloroethane	1580	32	1295	0	122	55-93	1640	3.76	30	S
Indeno(1,2,3-cd)pyrene	1195	6.5	1295	43.32	88.9	56-120	1192	0.276	30	
Isophorone	1502	160	1295	0	116	52-99	1596	6.07	30	S
Naphthalene	2664	6.5	1295	1693	75	46-98	2740	2.8	30	
Nitrobenzene	1240	160	1295	0	95.7	53-95	1285	3.61	30	S
N-Nitrosodi-n-propylamine	1410	32	1295	0	109	50-104	1519	7.42	30	S
N-Nitrosodiphenylamine	1384	32	1295	0	107	63-107	1589	13.8	30	
Pentachlorophenol	880.3	32	1295	0	68	34-106	970.7	9.77	30	
Phenanthrene	1253	6.5	1295	188.4	82.2	66-101	1239	1.08	30	
Phenol	1036	32	1295	0	80	44-109	1074	3.64	30	
Pyrene	1168	6.5	1295	55.14	85.9	60-119	1207	3.33	30	
Surr: 2,4,6-Tribromophenol	2481	0	3238	0	76.6	38-92	2492	0.455	40	
Surr: 2-Fluorobiphenyl	2456	0	3238	0	75.8	44-107	2520	2.57	40	
Surr: 2-Fluorophenol	2542	0	3238	0	78.5	37-109	2605	2.42	40	
Surr: 4-Terphenyl-d14	2624	0	3238	0	81	52-123	2780	5.76	40	
Surr: Nitrobenzene-d5	3002	0	3238	0	92.7	41-94	3116	3.75	40	
Surr: Phenol-d6	2682	0	3238	0	82.8	28-111	2774	3.35	40	

The following samples were analyzed in this batch:

22020447-01B	22020447-02B	22020447-03B
22020447-04B	22020447-05B	22020447-06B
22020447-07B	22020447-08B	22020447-09B
22020447-10B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
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 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438 Instrument ID VMS11 Method: SW8260C

MBLK		Sample ID: MBLK-191438-191438			Units: µg/Kg-dry		Analysis Date: 2/8/2022 02:25 PM			
Client ID:		Run ID: VMS11_220208A			SeqNo: 8161373		Prep Date: 2/8/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromochloromethane	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
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Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438	Instrument ID VMS11	Method: SW8260C						
Hexachloroethane	ND	100						
Isopropylbenzene	ND	30						
m,p-Xylene	ND	60						
Methyl iodide	ND	500						
Methyl tert-butyl ether	ND	30						
Methylene chloride	ND	250						
Naphthalene	ND	100						
n-Propylbenzene	ND	30						
o-Xylene	ND	30						
Styrene	ND	30						
Tetrachloroethene	ND	30						
Toluene	ND	30						
trans-1,2-Dichloroethene	ND	30						
trans-1,3-Dichloropropene	ND	30						
trans-1,4-Dichloro-2-butene	ND	30						
Trichloroethene	ND	30						
Trichlorofluoromethane	ND	30						
Vinyl acetate	ND	250						
Vinyl chloride	ND	30						
Xylenes, Total	ND	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	939.5	0	1000	0	94	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1000	0	1000	0	100	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1006	0	1000	0	101	70-130	0	
<i>Surr: Toluene-d8</i>	953	0	1000	0	95.3	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
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 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438 Instrument ID VMS11 Method: SW8260C

LCS		Sample ID: LCS-191438-191438			Units: µg/Kg-dry		Analysis Date: 2/8/2022 01:20 PM			
Client ID:		Run ID: VMS11_220208A			SeqNo: 8161371		Prep Date: 2/8/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1068	30	1000	0	107	75-125	0			
1,1,1-Trichloroethane	951.5	30	1000	0	95.2	70-135	0			
1,1,2,2-Tetrachloroethane	983.5	30	1000	0	98.4	55-130	0			
1,1,2-Trichloroethane	996.5	30	1000	0	99.6	60-125	0			
1,1-Dichloroethane	904.5	30	1000	0	90.4	75-125	0			
1,1-Dichloroethene	912	30	1000	0	91.2	76-148	0			
1,2,3-Trichloropropane	956.5	30	1000	0	95.6	65-130	0			
1,2,4-Trichlorobenzene	1108	100	1000	0	111	65-130	0			
1,2,4-Trimethylbenzene	1012	30	1000	0	101	65-135	0			
1,2-Dibromo-3-chloropropane	1030	100	1000	0	103	40-135	0			
1,2-Dibromoethane	1056	30	1000	0	106	80-195	0			
1,2-Dichlorobenzene	1008	30	1000	0	101	75-120	0			
1,2-Dichloroethane	906	100	1000	0	90.6	70-135	0			
1,2-Dichloropropane	934.5	30	1000	0	93.4	70-120	0			
1,3,5-Trimethylbenzene	980.5	100	1000	0	98	65-135	0			
1,3-Dichlorobenzene	989.5	30	1000	0	99	70-125	0			
1,4-Dichlorobenzene	980	30	1000	0	98	70-125	0			
2-Butanone	1012	200	1000	0	101	30-160	0			
2-Hexanone	897	30	1000	0	89.7	45-145	0			
4-Methyl-2-pentanone	1200	30	1000	0	120	74-176	0			
Acetone	1062	100	1000	0	106	20-160	0			
Acrylonitrile	854	100	1000	0	85.4	70-135	0			
Benzene	950.5	30	1000	0	95	75-125	0			
Bromochloromethane	860.5	30	1000	0	86	74-134	0			
Bromodichloromethane	1088	30	1000	0	109	70-130	0			
Bromoform	1046	30	1000	0	105	55-135	0			
Bromomethane	763	100	1000	0	76.3	50-170	0			
Carbon disulfide	958	30	1000	0	95.8	45-160	0			
Carbon tetrachloride	1106	30	1000	0	111	65-135	0			
Chlorobenzene	966.5	30	1000	0	96.6	75-125	0			
Chloroethane	715	100	1000	0	71.5	40-155	0			
Chloroform	944.5	30	1000	0	94.4	66-140	0			
Chloromethane	586	100	1000	0	58.6	50-144	0			
cis-1,2-Dichloroethene	919	30	1000	0	91.9	65-125	0			
cis-1,3-Dichloropropene	1020	30	1000	0	102	70-125	0			
Dibromochloromethane	1007	30	1000	0	101	65-135	0			
Dibromomethane	995	30	1000	0	99.5	75-130	0			
Dichlorodifluoromethane	667	100	1000	0	66.7	35-135	0			
Diethyl ether	937	30	1000	0	93.7	67-150	0			
Ethylbenzene	989	30	1000	0	98.9	75-125	0			
Hexachloroethane	1012	100	1000	0	101	51-122	0			
Isopropylbenzene	954.5	30	1000	0	95.4	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438	Instrument ID VMS11		Method: SW8260C					
m,p-Xylene	2025	60	2000	0	101	80-125	0	
Methyl iodide	1094	500	1000	0	109	64-180	0	
Methyl tert-butyl ether	1000	30	1000	0	100	75-125	0	
Methylene chloride	851	250	1000	0	85.1	55-145	0	
Naphthalene	1022	100	1000	0	102	40-140	0	
n-Propylbenzene	924.5	30	1000	0	92.4	65-135	0	
o-Xylene	1004	30	1000	0	100	75-125	0	
Styrene	947.5	30	1000	0	94.8	80-138	0	
Tetrachloroethene	1107	30	1000	0	111	67-167	0	
Toluene	986.5	30	1000	0	98.6	70-125	0	
trans-1,2-Dichloroethene	889.5	30	1000	0	89	65-135	0	
trans-1,3-Dichloropropene	921.5	30	1000	0	92.2	59-129	0	
trans-1,4-Dichloro-2-butene	665.5	30	1000	0	66.6	62-112	0	
Trichloroethene	1058	30	1000	0	106	75-125	0	
Trichlorofluoromethane	766.5	30	1000	0	76.6	25-185	0	
Vinyl chloride	681	30	1000	0	68.1	60-125	0	
Xylenes, Total	3029	90	3000	0	101	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	913.5	0	1000	0	91.4	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	986	0	1000	0	98.6	70-130	0	
<i>Surr: Dibromofluoromethane</i>	985	0	1000	0	98.5	70-130	0	
<i>Surr: Toluene-d8</i>	959.5	0	1000	0	96	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
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 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438 Instrument ID VMS11 Method: SW8260C

MS				Sample ID: 22020447-04A MS		Units: µg/Kg-dry		Analysis Date: 2/8/2022 09:21 PM		
Client ID: SB-76 (2-3')			Run ID: VMS11_220208A		SeqNo: 8161392		Prep Date: 2/8/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1315	38	1253	0	105	75-125	0			
1,1,1-Trichloroethane	1292	38	1253	0	103	70-135	0			
1,1,2,2-Tetrachloroethane	1271	38	1253	0	101	55-130	0			
1,1,2-Trichloroethane	1341	38	1253	0	107	60-125	0			
1,1-Dichloroethane	1215	38	1253	0	97	75-125	0			
1,1-Dichloroethene	1315	38	1253	0	105	76-148	0			
1,2,3-Trichloropropane	1316	38	1253	0	105	65-130	0			
1,2,4-Trichlorobenzene	1355	130	1253	0	108	65-130	0			
1,2,4-Trimethylbenzene	1390	38	1253	0	111	65-135	0			
1,2-Dibromo-3-chloropropane	1169	130	1253	0	93.4	40-135	0			
1,2-Dibromoethane	1372	38	1253	0	110	80-195	0			
1,2-Dichlorobenzene	1298	38	1253	0	104	75-120	0			
1,2-Dichloroethane	1203	130	1253	0	96.1	70-135	0			
1,2-Dichloropropane	1245	38	1253	0	99.4	70-120	0			
1,3,5-Trimethylbenzene	1333	130	1253	0	106	65-135	0			
1,3-Dichlorobenzene	1320	38	1253	0	105	70-125	0			
1,4-Dichlorobenzene	1285	38	1253	0	103	70-125	0			
2-Butanone	1285	250	1253	0	103	30-160	0			
2-Hexanone	1180	38	1253	0	94.2	45-145	0			
4-Methyl-2-pentanone	1492	38	1253	0	119	74-176	0			
Acetone	1373	130	1253	0	110	20-160	0			
Acrylonitrile	1261	130	1253	0	101	70-135	0			
Benzene	1273	38	1253	0	102	75-125	0			
Bromochloromethane	1165	38	1253	0	93	74-134	0			
Bromodichloromethane	1332	38	1253	0	106	70-130	0			
Bromoform	1270	38	1253	0	101	55-135	0			
Bromomethane	456.5	130	1253	0	36.5	50-170	0			S
Carbon disulfide	1274	38	1253	0	102	45-160	0			
Carbon tetrachloride	1443	38	1253	0	115	65-135	0			
Chlorobenzene	1323	38	1253	0	106	75-125	0			
Chloroethane	887.4	130	1253	0	70.8	40-155	0			
Chloroform	1281	38	1253	0	102	66-140	0			
Chloromethane	843.6	130	1253	0	67.3	50-144	0			
cis-1,2-Dichloroethene	1215	38	1253	0	97	65-125	0			
cis-1,3-Dichloropropene	1226	38	1253	0	97.8	70-125	0			
Dibromochloromethane	1187	38	1253	0	94.8	65-135	0			
Dibromomethane	1327	38	1253	0	106	75-130	0			
Dichlorodifluoromethane	1162	130	1253	0	92.8	35-135	0			
Diethyl ether	1259	38	1253	0	101	67-150	0			
Ethylbenzene	1354	38	1253	0	108	75-125	0			
Hexachloroethane	1204	130	1253	0	96.1	51-122	0			
Isopropylbenzene	1343	38	1253	0	107	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438	Instrument ID VMS11		Method: SW8260C					
m,p-Xylene	2777	75	2505	0	111	80-125	0	
Methyl iodide	969.4	630	1253	0	77.4	64-180	0	
Methyl tert-butyl ether	1358	38	1253	0	108	75-125	0	
Methylene chloride	1195	310	1253	0	95.4	55-145	0	
Naphthalene	1253	130	1253	0	100	40-140	0	
n-Propylbenzene	1291	38	1253	0	103	65-135	0	
o-Xylene	1350	38	1253	0	108	75-125	0	
Styrene	1299	38	1253	0	104	80-138	0	
Tetrachloroethene	2612	38	1253	0	208	67-167	0	S
Toluene	1301	38	1253	0	104	70-125	0	
trans-1,2-Dichloroethene	1247	38	1253	0	99.5	65-135	0	
trans-1,3-Dichloropropene	1116	38	1253	0	89.1	59-129	0	
trans-1,4-Dichloro-2-butene	795.4	38	1253	0	63.5	62-112	0	
Trichloroethene	1544	38	1253	0	123	75-125	0	
Trichlorofluoromethane	1174	38	1253	0	93.8	25-185	0	
Vinyl chloride	1054	38	1253	0	84.2	60-125	0	
Xylenes, Total	4128	110	3758	0	110	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1173	0	1253	0	93.6	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1259	0	1253	0	100	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1230	0	1253	0	98.2	70-130	0	
<i>Surr: Toluene-d8</i>	1162	0	1253	0	92.7	70-130	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438 Instrument ID VMS11 Method: SW8260C

MSD				Sample ID: 22020447-04A MSD			Units: µg/Kg-dry		Analysis Date: 2/8/2022 09:43 PM		
Client ID: SB-76 (2-3')		Run ID: VMS11_220208A		SeqNo: 8161393		Prep Date: 2/8/2022		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1,2-Tetrachloroethane	972.2	29	959.7	0	101	75-125	1315	29.9	30		
1,1,1-Trichloroethane	978.4	29	959.7	0	102	70-135	1292	27.6	30		
1,1,2,2-Tetrachloroethane	945.3	29	959.7	0	98.5	55-130	1271	29.4	30		
1,1,2-Trichloroethane	989.9	29	959.7	0	103	60-125	1341	30.2	30	R	
1,1-Dichloroethane	868.5	29	959.7	0	90.5	75-125	1215	33.3	30	R	
1,1-Dichloroethene	917.5	29	959.7	0	95.6	76-148	1315	35.6	30	R	
1,2,3-Trichloropropane	997.6	29	959.7	0	104	65-130	1316	27.6	30		
1,2,4-Trichlorobenzene	1081	96	959.7	0	113	65-130	1355	22.5	30		
1,2,4-Trimethylbenzene	1050	29	959.7	0	109	65-135	1390	27.8	30		
1,2-Dibromo-3-chloropropane	926.1	96	959.7	0	96.5	40-135	1169	23.2	30		
1,2-Dibromoethane	990.4	29	959.7	0	103	80-195	1372	32.3	30	R	
1,2-Dichlorobenzene	997.1	29	959.7	0	104	75-120	1298	26.2	30		
1,2-Dichloroethane	901.6	96	959.7	0	93.9	70-135	1203	28.6	30		
1,2-Dichloropropane	919.9	29	959.7	0	95.9	70-120	1245	30	30	R	
1,3,5-Trimethylbenzene	1031	96	959.7	0	107	65-135	1333	25.6	30		
1,3-Dichlorobenzene	1004	29	959.7	0	105	70-125	1320	27.1	30		
1,4-Dichlorobenzene	962.6	29	959.7	0	100	70-125	1285	28.7	30		
2-Butanone	942.4	190	959.7	0	98.2	30-160	1285	30.8	30	R	
2-Hexanone	931.9	29	959.7	0	97.1	45-145	1180	23.5	30		
4-Methyl-2-pentanone	1137	29	959.7	0	119	74-176	1492	27	30		
Acetone	1186	96	959.7	0	124	20-160	1373	14.6	30		
Acrylonitrile	873.8	96	959.7	0	91	70-135	1261	36.2	30	R	
Benzene	955.4	29	959.7	0	99.5	75-125	1273	28.5	30		
Bromochloromethane	806.6	29	959.7	0	84.1	74-134	1165	36.3	30	R	
Bromodichloromethane	978.4	29	959.7	0	102	70-130	1332	30.6	30	R	
Bromoform	922.7	29	959.7	0	96.2	55-135	1270	31.7	30	R	
Bromomethane	372.4	96	959.7	0	38.8	50-170	456.5	20.3	30	S	
Carbon disulfide	916	29	959.7	0	95.5	45-160	1274	32.7	30	R	
Carbon tetrachloride	1083	29	959.7	0	113	65-135	1443	28.5	30		
Chlorobenzene	977.4	29	959.7	0	102	75-125	1323	30.1	30	R	
Chloroethane	602.7	96	959.7	0	62.8	40-155	887.4	38.2	30	R	
Chloroform	931.4	29	959.7	0	97	66-140	1281	31.6	30	R	
Chloromethane	590.2	96	959.7	0	61.5	50-144	843.6	35.3	30	R	
cis-1,2-Dichloroethene	876.7	29	959.7	0	91.3	65-125	1215	32.3	30	R	
cis-1,3-Dichloropropene	947.2	29	959.7	0	98.7	70-125	1226	25.6	30		
Dibromochloromethane	872.8	29	959.7	0	91	65-135	1187	30.5	30	R	
Dibromomethane	991.8	29	959.7	0	103	75-130	1327	28.9	30		
Dichlorodifluoromethane	789.3	96	959.7	0	82.2	35-135	1162	38.2	30	R	
Diethyl ether	886.3	29	959.7	0	92.3	67-150	1259	34.8	30	R	
Ethylbenzene	1030	29	959.7	0	107	75-125	1354	27.2	30		
Hexachloroethane	906	96	959.7	0	94.4	51-122	1204	28.2	30		
Isopropylbenzene	1024	29	959.7	0	107	75-130	1343	26.9	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191438	Instrument ID VMS11		Method: SW8260C							
m,p-Xylene	2096	58	1919	0	109	80-125	2777	27.9	30	
Methyl iodide	800.4	480	959.7	0	83.4	64-180	969.4	19.1	30	
Methyl tert-butyl ether	981.8	29	959.7	0	102	75-125	1358	32.2	30	R
Methylene chloride	816.2	240	959.7	0	85.1	55-145	1195	37.7	30	R
Naphthalene	1031	96	959.7	0	107	40-140	1253	19.4	30	
n-Propylbenzene	1010	29	959.7	0	105	65-135	1291	24.4	30	
o-Xylene	1021	29	959.7	0	106	75-125	1350	27.8	30	
Styrene	977	29	959.7	0	102	80-138	1299	28.3	30	
Tetrachloroethene	1981	29	959.7	0	206	67-167	2612	27.5	30	S
Toluene	965	29	959.7	0	101	70-125	1301	29.6	30	
trans-1,2-Dichloroethene	887.7	29	959.7	0	92.5	65-135	1247	33.7	30	R
trans-1,3-Dichloropropene	805.7	29	959.7	0	83.9	59-129	1116	32.3	30	R
trans-1,4-Dichloro-2-butene	553.7	29	959.7	0	57.7	62-112	795.4	35.8	30	SR
Trichloroethene	1161	29	959.7	0	121	75-125	1544	28.3	30	
Trichlorofluoromethane	834	29	959.7	0	86.9	25-185	1174	33.9	30	R
Vinyl chloride	741.8	29	959.7	0	77.3	60-125	1054	34.8	30	R
Xylenes, Total	3117	86	2879	0	108	75-125	4128	27.9	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	907.9	0	959.7	0	94.6	70-130	1173	25.5	30	
<i>Surr: 4-Bromofluorobenzene</i>	963.5	0	959.7	0	100	70-130	1259	26.6	30	
<i>Surr: Dibromofluoromethane</i>	954.4	0	959.7	0	99.5	70-130	1230	25.2	30	
<i>Surr: Toluene-d8</i>	911.2	0	959.7	0	94.9	70-130	1162	24.2	30	

The following samples were analyzed in this batch:

22020447-01A	22020447-02A	22020447-03A
22020447-04A	22020447-05A	22020447-06A
22020447-07A	22020447-08A	22020447-09A
22020447-10A	22020447-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020447
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **R338010** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R338010				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167745		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R338010				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167744		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020447-06B DUP				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID: SB-78 (1-2')		Run ID: MOIST_220210B		SeqNo: 8167733		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.05	0.10	0	0	0	0-0	5.14	1.77	10	

DUP		Sample ID: 22020472-01A DUP				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167743		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.96	0.10	0	0	0	0-0	7.72	14.9	10	R

The following samples were analyzed in this batch:

22020447-01B	22020447-02B	22020447-03B
22020447-04B	22020447-05B	22020447-06B
22020447-07B	22020447-08B	22020447-09B
22020447-10B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: **055118**

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 22020447

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Coolidge Bioswales</u>	A	<u>VOCs</u>										
Work Order		Project Number		B	<u>SVOCS</u>										
Company Name	<u>DLZ Michigan, Inc.</u>	Bill To Company		C	<u>MI 10 Metals</u>										
Send Report To	<u>Dan McNeely</u>	Invoice Attn		D											
Address	<u>1425 Keystone Ave</u>	Address		E											
				F											
City/State/Zip	<u>Lansing MI 48911</u>	City/State/Zip		G											
Phone	<u>577393 6800</u>	Phone		H											
Fax		Fax		I											
e-Mail Address	<u>dmcneely@dlz.com</u>	e-Mail Address		J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>SB-73 (2-3')</u>	<u>2-7-22</u>	<u>1015</u>	<u>Soil</u>	<u>7,8</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>✓</u>								
2	<u>SB-73 (3-4')</u>		<u>1020</u>				<u>X</u>	<u>X</u>	<u>X</u>								
3	<u>SB-75 (3-4')</u>		<u>1040</u>				<u>X</u>	<u>X</u>	<u>X</u>								
4	<u>SB-76 (2-3')</u>		<u>1150</u>				<u>X</u>	<u>X</u>	<u>X</u>								
5	<u>SB-77 (4-5')</u>		<u>1230</u>				<u>X</u>	<u>X</u>	<u>X</u>								
6	<u>SB-78 (1-2')</u>		<u>1300</u>				<u>X</u>	<u>X</u>	<u>X</u>								
7	<u>SB-79 (4-5')</u>		<u>1550</u>				<u>X</u>	<u>X</u>	<u>X</u>								
8	<u>SB-80 (3-4')</u>		<u>1350</u>				<u>X</u>	<u>X</u>	<u>X</u>								
9	<u>SB-81 (2-3')</u>		<u>1415</u>				<u>X</u>	<u>X</u>	<u>X</u>								
10	<u>DUP-04</u>		<u>0800</u>				<u>X</u>	<u>X</u>	<u>X</u>								

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by:	Date: <u>2-7-22</u>	Time: <u>1750</u>	Received by:		Notes:						
Relinquished by:	Date: <u>2-7-22</u>	Time: <u>1300</u>	Received by (Laboratory):		Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)				
Logged by (Laboratory):	Date: <u>2/8/22</u>	Time: <u>0830</u>	Checked by (Laboratory):		<u>IR3</u>	<u>4.7°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					<input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV						
					<input type="checkbox"/> Level IV SW846/CLP						
					<input type="checkbox"/> Other						

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 07-Feb-22 23:00

Work Order: 22020447

Received by: DS

Checklist completed by Diane Shaw 08-Feb-22
eSignature Date

Reviewed by: Julian Johnson 09-Feb-22
eSignature Date

Matrices: Soil
Carrier name: Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.7/5.7 c</u>		<u>IR3</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>2/8/2022 8:55:54 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes: Sample "DUP-05" not on COC, was added to log-in.

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



08-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Bioswales**

Work Order: **22020094**

Dear Dan,

ALS Environmental received 8 samples on 01-Feb-2022 11:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020094

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020094-01	SB-61 (0-2') Comp.	Soil		2/1/2022 09:45	2/1/2022 23:45	<input type="checkbox"/>
22020094-02	SB-61 (0-2') Comp.	Tclp Extract		2/1/2022 09:45	2/1/2022 23:45	<input type="checkbox"/>
22020094-03	SB-64 (0-2') Comp.	Soil		2/1/2022 11:00	2/1/2022 23:45	<input type="checkbox"/>
22020094-04	SB-64 (0-2') Comp.	Tclp Extract		2/1/2022 11:00	2/1/2022 23:45	<input type="checkbox"/>
22020094-05	SB-65 (0-2') Comp.	Soil		2/1/2022 11:15	2/1/2022 23:45	<input type="checkbox"/>
22020094-06	SB-65 (0-2') Comp.	Tclp Extract		2/1/2022 11:15	2/1/2022 23:45	<input type="checkbox"/>
22020094-07	SB-72 (0-2') Comp.	Soil		2/1/2022 15:00	2/1/2022 23:45	<input type="checkbox"/>
22020094-08	SB-72 (0-2') Comp.	Tclp Extract		2/1/2022 15:00	2/1/2022 23:45	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Date: 08-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-61 (0-2') Comp.
Collection Date: 2/1/2022 09:45 AM

Work Order: 22020094
Lab ID: 22020094-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04		Analyst: RM
Aroclor 1016	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1221	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1232	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1242	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1248	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1254	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1260	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1262	ND		64	µg/Kg	1	2/7/2022 02:21 PM
Aroclor 1268	ND		64	µg/Kg	1	2/7/2022 02:21 PM
PCBs, Total	ND		64	µg/Kg	1	2/7/2022 02:21 PM
<i>Surr: Decachlorobiphenyl</i>	65.1		60-138	%REC	1	2/7/2022 02:21 PM
<i>Surr: Tetrachloro-m-xylene</i>	83.9		65-125	%REC	1	2/7/2022 02:21 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-61 (0-2') Comp.
Collection Date: 2/1/2022 09:45 AM

Work Order: 22020094
Lab ID: 22020094-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/7/22 13:43		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/7/2022 02:25 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/7/22 15:03		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 04:21 PM
Barium	0.72		0.050	mg/L	1	2/8/2022 02:21 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 04:21 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 04:21 PM
Lead	ND		0.050	mg/L	1	2/7/2022 04:21 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 04:21 PM
Silver	ND		0.050	mg/L	1	2/7/2022 04:21 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/7/22 16:07		Analyst: EE
1,4-Dichlorobenzene	ND		100	µg/L	1	2/7/2022 08:59 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/7/2022 08:59 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/7/2022 08:59 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/7/2022 08:59 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/7/2022 08:59 PM
Hexachlorobenzene	ND		100	µg/L	1	2/7/2022 08:59 PM
Hexachloroethane	ND		100	µg/L	1	2/7/2022 08:59 PM
m-Cresol	ND		100	µg/L	1	2/7/2022 08:59 PM
Nitrobenzene	ND		100	µg/L	1	2/7/2022 08:59 PM
o-Cresol	ND		100	µg/L	1	2/7/2022 08:59 PM
p-Cresol	ND		100	µg/L	1	2/7/2022 08:59 PM
Pentachlorophenol	ND		100	µg/L	1	2/7/2022 08:59 PM
Pyridine	ND		200	µg/L	1	2/7/2022 08:59 PM
Surr: 2,4,6-Tribromophenol	69.9		27-83	%REC	1	2/7/2022 08:59 PM
Surr: 2-Fluorobiphenyl	74.1		26-79	%REC	1	2/7/2022 08:59 PM
Surr: 2-Fluorophenol	44.7		13-56	%REC	1	2/7/2022 08:59 PM
Surr: 4-Terphenyl-d14	85.8		43-106	%REC	1	2/7/2022 08:59 PM
Surr: Nitrobenzene-d5	68.6		29-80	%REC	1	2/7/2022 08:59 PM
Surr: Phenol-d6	29.5		10-35	%REC	1	2/7/2022 08:59 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/5/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 04:37 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 04:37 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 04:37 PM
Benzene	ND		50	µg/L	20	2/7/2022 04:37 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 04:37 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 04:37 PM
Chloroform	ND		20	µg/L	20	2/7/2022 04:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-61 (0-2') Comp.
Collection Date: 2/1/2022 09:45 AM

Work Order: 22020094
Lab ID: 22020094-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 04:37 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 04:37 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 04:37 PM
Surr: 1,2-Dichloroethane-d4	106		75-120	%REC	20	2/7/2022 04:37 PM
Surr: 4-Bromofluorobenzene	96.9		80-110	%REC	20	2/7/2022 04:37 PM
Surr: Dibromofluoromethane	104		85-115	%REC	20	2/7/2022 04:37 PM
Surr: Toluene-d8	104		85-110	%REC	20	2/7/2022 04:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-64 (0-2') Comp.
 Collection Date: 2/1/2022 11:00 AM

Work Order: 22020094
 Lab ID: 22020094-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1221	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1232	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1242	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1248	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1254	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1260	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1262	ND		66	µg/Kg	1	2/7/2022 02:34 PM
Aroclor 1268	ND		66	µg/Kg	1	2/7/2022 02:34 PM
PCBs, Total	ND		66	µg/Kg	1	2/7/2022 02:34 PM
<i>Surr: Decachlorobiphenyl</i>	80.1		60-138	%REC	1	2/7/2022 02:34 PM
<i>Surr: Tetrachloro-m-xylene</i>	95.6		65-125	%REC	1	2/7/2022 02:34 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	22		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-64 (0-2') Comp.
Collection Date: 2/1/2022 11:00 AM

Work Order: 22020094
Lab ID: 22020094-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/7/22 13:43		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/7/2022 02:27 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/7/22 15:03		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 04:26 PM
Barium	0.70		0.050	mg/L	1	2/8/2022 02:26 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 04:26 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 04:26 PM
Lead	ND		0.050	mg/L	1	2/7/2022 04:26 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 04:26 PM
Silver	ND		0.050	mg/L	1	2/7/2022 04:26 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/7/22 16:07		Analyst: EE
1,4-Dichlorobenzene	ND		100	µg/L	1	2/7/2022 09:19 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/7/2022 09:19 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/7/2022 09:19 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/7/2022 09:19 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/7/2022 09:19 PM
Hexachlorobenzene	ND		100	µg/L	1	2/7/2022 09:19 PM
Hexachloroethane	ND		100	µg/L	1	2/7/2022 09:19 PM
m-Cresol	ND		100	µg/L	1	2/7/2022 09:19 PM
Nitrobenzene	ND		100	µg/L	1	2/7/2022 09:19 PM
o-Cresol	ND		100	µg/L	1	2/7/2022 09:19 PM
p-Cresol	ND		100	µg/L	1	2/7/2022 09:19 PM
Pentachlorophenol	ND		100	µg/L	1	2/7/2022 09:19 PM
Pyridine	ND		200	µg/L	1	2/7/2022 09:19 PM
Surr: 2,4,6-Tribromophenol	74.3		27-83	%REC	1	2/7/2022 09:19 PM
Surr: 2-Fluorobiphenyl	70.1		26-79	%REC	1	2/7/2022 09:19 PM
Surr: 2-Fluorophenol	42.8		13-56	%REC	1	2/7/2022 09:19 PM
Surr: 4-Terphenyl-d14	89.8		43-106	%REC	1	2/7/2022 09:19 PM
Surr: Nitrobenzene-d5	65.4		29-80	%REC	1	2/7/2022 09:19 PM
Surr: Phenol-d6	29.7		10-35	%REC	1	2/7/2022 09:19 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/5/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 04:19 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 04:19 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 04:19 PM
Benzene	ND		50	µg/L	20	2/7/2022 04:19 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 04:19 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 04:19 PM
Chloroform	ND		20	µg/L	20	2/7/2022 04:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-64 (0-2') Comp.
Collection Date: 2/1/2022 11:00 AM

Work Order: 22020094
Lab ID: 22020094-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 04:19 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 04:19 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 04:19 PM
Surr: 1,2-Dichloroethane-d4	100		75-120	%REC	20	2/7/2022 04:19 PM
Surr: 4-Bromofluorobenzene	96.3		80-110	%REC	20	2/7/2022 04:19 PM
Surr: Dibromofluoromethane	96.9		85-115	%REC	20	2/7/2022 04:19 PM
Surr: Toluene-d8	104		85-110	%REC	20	2/7/2022 04:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-65 (0-2') Comp.
 Collection Date: 2/1/2022 11:15 AM

Work Order: 22020094
 Lab ID: 22020094-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1221	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1232	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1242	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1248	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1254	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1260	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1262	ND		66	µg/Kg	1	2/7/2022 02:47 PM
Aroclor 1268	ND		66	µg/Kg	1	2/7/2022 02:47 PM
PCBs, Total	ND		66	µg/Kg	1	2/7/2022 02:47 PM
<i>Surr: Decachlorobiphenyl</i>	74.5		60-138	%REC	1	2/7/2022 02:47 PM
<i>Surr: Tetrachloro-m-xylene</i>	79.5		65-125	%REC	1	2/7/2022 02:47 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	11		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-65 (0-2') Comp.
Collection Date: 2/1/2022 11:15 AM

Work Order: 22020094
Lab ID: 22020094-06
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/7/22 13:43		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/7/2022 02:29 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/7/22 15:03		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 04:31 PM
Barium	0.84		0.050	mg/L	1	2/8/2022 02:46 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 04:31 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 04:31 PM
Lead	0.21		0.050	mg/L	1	2/7/2022 04:31 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 04:31 PM
Silver	ND		0.050	mg/L	1	2/7/2022 04:31 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/7/22 16:07		Analyst: EE
1,4-Dichlorobenzene	ND		100	µg/L	1	2/7/2022 09:40 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/7/2022 09:40 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/7/2022 09:40 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/7/2022 09:40 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/7/2022 09:40 PM
Hexachlorobenzene	ND		100	µg/L	1	2/7/2022 09:40 PM
Hexachloroethane	ND		100	µg/L	1	2/7/2022 09:40 PM
m-Cresol	ND		100	µg/L	1	2/7/2022 09:40 PM
Nitrobenzene	ND		100	µg/L	1	2/7/2022 09:40 PM
o-Cresol	ND		100	µg/L	1	2/7/2022 09:40 PM
p-Cresol	ND		100	µg/L	1	2/7/2022 09:40 PM
Pentachlorophenol	ND		100	µg/L	1	2/7/2022 09:40 PM
Pyridine	ND		200	µg/L	1	2/7/2022 09:40 PM
Surr: 2,4,6-Tribromophenol	67.7		27-83	%REC	1	2/7/2022 09:40 PM
Surr: 2-Fluorobiphenyl	67.5		26-79	%REC	1	2/7/2022 09:40 PM
Surr: 2-Fluorophenol	43.2		13-56	%REC	1	2/7/2022 09:40 PM
Surr: 4-Terphenyl-d14	80.1		43-106	%REC	1	2/7/2022 09:40 PM
Surr: Nitrobenzene-d5	63.4		29-80	%REC	1	2/7/2022 09:40 PM
Surr: Phenol-d6	28.9		10-35	%REC	1	2/7/2022 09:40 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/5/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 04:01 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 04:01 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 04:01 PM
Benzene	ND		50	µg/L	20	2/7/2022 04:01 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 04:01 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 04:01 PM
Chloroform	ND		20	µg/L	20	2/7/2022 04:01 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-65 (0-2') Comp.
Collection Date: 2/1/2022 11:15 AM

Work Order: 22020094
Lab ID: 22020094-06
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 04:01 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 04:01 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 04:01 PM
Surr: 1,2-Dichloroethane-d4	98.4		75-120	%REC	20	2/7/2022 04:01 PM
Surr: 4-Bromofluorobenzene	107		80-110	%REC	20	2/7/2022 04:01 PM
Surr: Dibromofluoromethane	98.6		85-115	%REC	20	2/7/2022 04:01 PM
Surr: Toluene-d8	98.3		85-110	%REC	20	2/7/2022 04:01 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-72 (0-2') Comp.
 Collection Date: 2/1/2022 03:00 PM

Work Order: 22020094
 Lab ID: 22020094-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/4/22 14:04		Analyst: RM
Aroclor 1016	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1221	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1232	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1242	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1248	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1254	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1260	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1262	ND		130	µg/Kg	1	2/7/2022 03:00 PM
Aroclor 1268	ND		130	µg/Kg	1	2/7/2022 03:00 PM
PCBs, Total	ND		130	µg/Kg	1	2/7/2022 03:00 PM
<i>Surr: Decachlorobiphenyl</i>	90.9		60-138	%REC	1	2/7/2022 03:00 PM
<i>Surr: Tetrachloro-m-xylene</i>	85.6		65-125	%REC	1	2/7/2022 03:00 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	17		0.10	% of sample	1	2/3/2022 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-72 (0-2') Comp.
Collection Date: 2/1/2022 03:00 PM

Work Order: 22020094
Lab ID: 22020094-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/7/22 13:43		Analyst: EJC
Mercury	ND		0.0020	mg/L	1	2/7/2022 02:31 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/7/22 15:03		Analyst: DSC
Arsenic	ND		0.050	mg/L	1	2/7/2022 04:36 PM
Barium	0.44		0.050	mg/L	1	2/8/2022 02:51 PM
Cadmium	ND		0.10	mg/L	1	2/7/2022 04:36 PM
Chromium	ND		0.10	mg/L	1	2/7/2022 04:36 PM
Lead	ND		0.050	mg/L	1	2/7/2022 04:36 PM
Selenium	ND		0.10	mg/L	1	2/7/2022 04:36 PM
Silver	ND		0.050	mg/L	1	2/7/2022 04:36 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/7/22 16:07		Analyst: EE
1,4-Dichlorobenzene	ND		100	µg/L	1	2/7/2022 10:00 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/7/2022 10:00 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/7/2022 10:00 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/7/2022 10:00 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/7/2022 10:00 PM
Hexachlorobenzene	ND		100	µg/L	1	2/7/2022 10:00 PM
Hexachloroethane	ND		100	µg/L	1	2/7/2022 10:00 PM
m-Cresol	ND		100	µg/L	1	2/7/2022 10:00 PM
Nitrobenzene	ND		100	µg/L	1	2/7/2022 10:00 PM
o-Cresol	ND		100	µg/L	1	2/7/2022 10:00 PM
p-Cresol	ND		100	µg/L	1	2/7/2022 10:00 PM
Pentachlorophenol	ND		100	µg/L	1	2/7/2022 10:00 PM
Pyridine	ND		200	µg/L	1	2/7/2022 10:00 PM
Surr: 2,4,6-Tribromophenol	74.0		27-83	%REC	1	2/7/2022 10:00 PM
Surr: 2-Fluorobiphenyl	72.8		26-79	%REC	1	2/7/2022 10:00 PM
Surr: 2-Fluorophenol	44.7		13-56	%REC	1	2/7/2022 10:00 PM
Surr: 4-Terphenyl-d14	86.6		43-106	%REC	1	2/7/2022 10:00 PM
Surr: Nitrobenzene-d5	69.6		29-80	%REC	1	2/7/2022 10:00 PM
Surr: Phenol-d6	29.7		10-35	%REC	1	2/7/2022 10:00 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/5/22		Analyst: MF
1,1-Dichloroethene	ND		20	µg/L	20	2/7/2022 04:55 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/7/2022 04:55 PM
2-Butanone	ND		100	µg/L	20	2/7/2022 04:55 PM
Benzene	ND		50	µg/L	20	2/7/2022 04:55 PM
Carbon tetrachloride	ND		20	µg/L	20	2/7/2022 04:55 PM
Chlorobenzene	ND		20	µg/L	20	2/7/2022 04:55 PM
Chloroform	ND		20	µg/L	20	2/7/2022 04:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-72 (0-2') Comp.
Collection Date: 2/1/2022 03:00 PM

Work Order: 22020094
Lab ID: 22020094-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/7/2022 04:55 PM
Trichloroethene	ND		20	µg/L	20	2/7/2022 04:55 PM
Vinyl chloride	ND		20	µg/L	20	2/7/2022 04:55 PM
Surr: 1,2-Dichloroethane-d4	106		75-120	%REC	20	2/7/2022 04:55 PM
Surr: 4-Bromofluorobenzene	97.6		80-110	%REC	20	2/7/2022 04:55 PM
Surr: Dibromofluoromethane	102		85-115	%REC	20	2/7/2022 04:55 PM
Surr: Toluene-d8	107		85-110	%REC	20	2/7/2022 04:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191313 Instrument ID GC14 Method: SW8082A

MBLK		Sample ID: PBLKS1-191313-191313				Units: µg/Kg		Analysis Date: 2/7/2022 11:48 AM			
Client ID:		Run ID: GC14_220207A				SeqNo: 8156606		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	ND	67									
Aroclor 1221	ND	67									
Aroclor 1232	ND	67									
Aroclor 1242	ND	67									
Aroclor 1248	ND	67									
Aroclor 1254	ND	67									
Aroclor 1260	ND	67									
Aroclor 1262	ND	67									
Aroclor 1268	ND	67									
PCBs, Total	ND	67									
<i>Surr: Decachlorobiphenyl</i>	36.45	0	33.3	0	109	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	32.6	0	33.3	0	97.9	65-125	0				

LCS		Sample ID: PLCSS1-191313-191313				Units: µg/Kg		Analysis Date: 2/7/2022 12:01 PM			
Client ID:		Run ID: GC14_220207A				SeqNo: 8156607		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	787.7	67	833	0	94.6	72-125	0				
Aroclor 1260	815.4	67	833	0	97.9	64-125	0				
<i>Surr: Decachlorobiphenyl</i>	36.87	0	33.3	0	111	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	34.88	0	33.3	0	105	65-125	0				

MS		Sample ID: 22020089-01B MS				Units: µg/Kg		Analysis Date: 2/7/2022 12:13 PM			
Client ID:		Run ID: GC14_220207A				SeqNo: 8156608		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	717.6	65	807.4	0	88.9	72-125	0				
Aroclor 1260	737.3	65	807.4	0	91.3	64-125	0				
<i>Surr: Decachlorobiphenyl</i>	28.64	0	32.28	0	88.7	60-138	0				
<i>Surr: Tetrachloro-m-xylene</i>	30.06	0	32.28	0	93.1	65-125	0				

MSD		Sample ID: 22020089-01B MSD				Units: µg/Kg		Analysis Date: 2/7/2022 12:26 PM			
Client ID:		Run ID: GC14_220207A				SeqNo: 8156609		Prep Date: 2/4/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	817.9	65	814.5	0	100	72-125	717.6	13.1	20		
Aroclor 1260	809.3	65	814.5	0	99.4	64-125	737.3	9.31	20		
<i>Surr: Decachlorobiphenyl</i>	31.48	0	32.56	0	96.7	60-138	28.64	9.46	20		
<i>Surr: Tetrachloro-m-xylene</i>	33.41	0	32.56	0	103	65-125	30.06	10.5	20		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020094
Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **191313** Instrument ID **GC14** Method: **SW8082A**

The following samples were analyzed in this batch:

22020094-01A	22020094-03A	22020094-05A
22020094-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191398 Instrument ID HG4 Method: SW7470A

MBLK		Sample ID: MBLK-191398-191398				Units: mg/L		Analysis Date: 2/7/2022 01:53 PM			
Client ID:		Run ID: HG4_220207A				SeqNo: 8155934		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury ND 0.00020

LCS		Sample ID: LCS-191398-191398				Units: mg/L		Analysis Date: 2/7/2022 02:01 PM			
Client ID:		Run ID: HG4_220207A				SeqNo: 8155938		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.00228 0.00020 0.002 0 114 80-120 0

MS		Sample ID: 22011802-02BMS				Units: mg/L		Analysis Date: 2/7/2022 02:08 PM			
Client ID:		Run ID: HG4_220207A				SeqNo: 8155942		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.00228 0.00020 0.002 0.0000525 111 75-125 0

MSD		Sample ID: 22011802-02BMSD				Units: mg/L		Analysis Date: 2/7/2022 02:09 PM			
Client ID:		Run ID: HG4_220207A				SeqNo: 8155943		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.002295 0.00020 0.002 0.0000525 112 75-125 0.00228 0.656 20

The following samples were analyzed in this batch:

22020094-02A	22020094-04A	22020094-06A
22020094-08A		

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191403 Instrument ID ICP2 Method: SW6010D

MBLK		Sample ID: MBLK-191366-191403				Units: mg/L		Analysis Date: 2/7/2022 04:01 PM		
Client ID:		Run ID: ICP2_220207A				SeqNo: 8157760		Prep Date: 2/7/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.010								
Chromium	ND	0.0050								
Lead	ND	0.0050								
Selenium	ND	0.010								
Silver	ND	0.0050								

MBLK		Sample ID: MBLK-191403-191403				Units: mg/L		Analysis Date: 2/7/2022 04:11 PM		
Client ID:		Run ID: ICP2_220207A				SeqNo: 8157762		Prep Date: 2/7/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.010								
Chromium	ND	0.0050								
Lead	ND	0.0050								
Selenium	ND	0.010								
Silver	ND	0.0050								

LCS		Sample ID: LCS-191366-191403				Units: mg/L		Analysis Date: 2/7/2022 04:06 PM		
Client ID:		Run ID: ICP2_220207A				SeqNo: 8157761		Prep Date: 2/7/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0924	0.0050	0.1	0	92.4	80-120	0			
Cadmium	0.09779	0.010	0.1	0	97.8	80-120	0			
Chromium	0.1005	0.0050	0.1	0	101	80-120	0			
Lead	0.09713	0.0050	0.1	0	97.1	80-120	0			
Selenium	0.0968	0.010	0.1	0	96.8	80-120	0			
Silver	0.09677	0.0050	0.1	0	96.8	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191403 Instrument ID ICP2 Method: SW6010D

LCS		Sample ID: LCS-191403-191403				Units: mg/L		Analysis Date: 2/7/2022 04:16 PM		
Client ID:		Run ID: ICP2_220207A			SeqNo: 8157763		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.08756	0.0050	0.1	0	87.6	80-120	0			
Cadmium	0.09328	0.010	0.1	0	93.3	80-120	0			
Chromium	0.09487	0.0050	0.1	0	94.9	80-120	0			
Lead	0.0918	0.0050	0.1	0	91.8	80-120	0			
Selenium	0.09185	0.010	0.1	0	91.8	80-120	0			
Silver	0.09185	0.0050	0.1	0	91.8	80-120	0			

LCS		Sample ID: LCS-191366-191403				Units: mg/L		Analysis Date: 2/8/2022 12:59 PM		
Client ID:		Run ID: ICP2_220208A			SeqNo: 8159722		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1049	0.0050	0.1	0	105	80-120	0			

LCS		Sample ID: LCS-191403-191403				Units: mg/L		Analysis Date: 2/8/2022 01:03 PM		
Client ID:		Run ID: ICP2_220208A			SeqNo: 8159723		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1015	0.0050	0.1	0	102	80-120	0			

MS		Sample ID: 22020353-02AMS				Units: mg/L		Analysis Date: 2/7/2022 05:05 PM		
Client ID:		Run ID: ICP2_220207A			SeqNo: 8157773		Prep Date: 2/7/2022		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1529	0.050	0.1	0.06325	89.6	75-125	0			
Cadmium	0.09394	0.10	0.1	-0.0003267	94.3	75-125	0			J
Chromium	0.1035	0.050	0.1	0.005137	98.4	75-125	0			
Lead	0.08536	0.050	0.1	0.006248	79.1	75-125	0			
Selenium	0.2013	0.10	0.1	0.1254	75.9	75-125	0			
Silver	0.1089	0.050	0.1	-0.003256	112	75-125	0			

MS		Sample ID: 22020353-02AMS				Units: mg/L		Analysis Date: 2/8/2022 03:01 PM		
Client ID:		Run ID: ICP2_220208A			SeqNo: 8159771		Prep Date: 2/7/2022		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1111	0.050	0.1	0	111	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191403 Instrument ID ICP2 Method: SW6010D

MSD				Sample ID: 22020353-02AMSD			Units: mg/L		Analysis Date: 2/7/2022 05:10 PM		
Client ID:		Run ID: ICP2_220207A			SeqNo: 8157774		Prep Date: 2/7/2022		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	0.1573	0.050	0.1	0.06325	94	75-125	0.1529	2.84	20		
Cadmium	0.09647	0.10	0.1	-0.0003267	96.8	75-125	0.09394	0	20	J	
Chromium	0.1353	0.050	0.1	0.005137	130	75-125	0.1035	26.6	20	SR	
Lead	0.09669	0.050	0.1	0.006248	90.4	75-125	0.08536	12.4	20		
Selenium	0.2266	0.10	0.1	0.1254	101	75-125	0.2013	11.8	20		
Silver	0.09746	0.050	0.1	-0.003256	101	75-125	0.1089	11.1	20		

MSD				Sample ID: 22020353-02AMSD			Units: mg/L		Analysis Date: 2/8/2022 03:06 PM		
Client ID:		Run ID: ICP2_220208A			SeqNo: 8159772		Prep Date: 2/7/2022		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Barium	0.1046	0.050	0.1	0	105	75-125	0.1111	6.02	20		

The following samples were analyzed in this batch:

22020094-02A	22020094-04A	22020094-06A
22020094-08A		

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191373 Instrument ID SVMS8 Method: SW8270E

MBLK		Sample ID: SBLKW1-191373-191373				Units: µg/L		Analysis Date: 2/7/2022 06:36 PM		
Client ID:		Run ID: SVMS8_220207A			SeqNo: 8159258		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Hexachloro-1,3-butadiene	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachloroethane	ND	5.0								
m-Cresol	ND	5.0								
Nitrobenzene	ND	5.0								
o-Cresol	ND	5.0								
p-Cresol	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	36.16	0	50	0	72.3	27-83		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.86	0	50	0	77.7	26-79		0		
<i>Surr: 2-Fluorophenol</i>	25.34	0	50	0	50.7	13-56		0		
<i>Surr: 4-Terphenyl-d14</i>	44.53	0	50	0	89.1	43-106		0		
<i>Surr: Nitrobenzene-d5</i>	37.39	0	50	0	74.8	29-80		0		
<i>Surr: Phenol-d6</i>	16.9	0	50	0	33.8	10-35		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191373 Instrument ID SVMS8 Method: SW8270E

LCS		Sample ID: SLCSW1-191373-191373				Units: µg/L		Analysis Date: 2/7/2022 06:56 PM		
Client ID:		Run ID: SVMS8_220207A			SeqNo: 8159260		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	15.38	5.0	20	0	76.9	12-85	0			
2,4,5-Trichlorophenol	16.43	5.0	20	0	82.2	47-84	0			
2,4,6-Trichlorophenol	15.73	5.0	20	0	78.6	45-83	0			
2,4-Dinitrotoluene	16.68	5.0	20	0	83.4	54-93	0			
Hexachloro-1,3-butadiene	15.55	5.0	20	0	77.8	11-83	0			
Hexachlorobenzene	16.47	5.0	20	0	82.4	53-89	0			
Hexachloroethane	15.43	5.0	20	0	77.2	10-85	0			
m-Cresol	13.06	5.0	20	0	65.3	30-110	0			
Nitrobenzene	16.39	5.0	20	0	82	38-86	0			
o-Cresol	14.18	5.0	20	0	70.9	30-110	0			
p-Cresol	13.06	5.0	20	0	65.3	30-110	0			
Pentachlorophenol	14.97	5.0	20	0	74.8	37-94	0			
Pyridine	9.89	10	20	0	49.4	10-50	0			J
Surr: 2,4,6-Tribromophenol	39.9	0	50	0	79.8	27-83	0			
Surr: 2-Fluorobiphenyl	39.05	0	50	0	78.1	26-79	0			
Surr: 2-Fluorophenol	24.54	0	50	0	49.1	13-56	0			
Surr: 4-Terphenyl-d14	40.82	0	50	0	81.6	43-106	0			
Surr: Nitrobenzene-d5	39.51	0	50	0	79	29-80	0			
Surr: Phenol-d6	16.16	0	50	0	32.3	10-35	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191373 Instrument ID SVMS8 Method: SW8270E

MS		Sample ID: 22020089-02A MS				Units: µg/L		Analysis Date: 2/7/2022 07:17 PM		
Client ID:		Run ID: SVMS8_220207A			SeqNo: 8159263		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	293.2	100	400	0	73.3	12-85	0			
2,4,5-Trichlorophenol	327.4	100	400	0	81.8	47-84	0			
2,4,6-Trichlorophenol	316.8	100	400	0	79.2	45-83	0			
2,4-Dinitrotoluene	338	100	400	0	84.5	54-93	0			
Hexachloro-1,3-butadiene	292.8	100	400	0	73.2	11-83	0			
Hexachlorobenzene	337.2	100	400	0	84.3	53-89	0			
Hexachloroethane	291.8	100	400	0	73	10-85	0			
m-Cresol	244	100	400	0	61	30-110	0			
Nitrobenzene	321.8	100	400	0	80.4	38-86	0			
o-Cresol	263.2	100	400	0	65.8	30-110	0			
p-Cresol	244	100	400	0	61	30-110	0			
Pentachlorophenol	324.4	100	400	0	81.1	37-94	0			
Pyridine	146.2	200	400	0	36.6	10-50	0			J
<i>Surr: 2,4,6-Tribromophenol</i>	<i>807.8</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>80.8</i>	<i>27-83</i>	<i>0</i>			
<i>Surr: 2-Fluorobiphenyl</i>	<i>774.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>77.4</i>	<i>26-79</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>451.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>45.1</i>	<i>13-56</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>842.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>84.2</i>	<i>43-106</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>771.6</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>77.2</i>	<i>29-80</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>290.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>29</i>	<i>10-35</i>	<i>0</i>			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191373 Instrument ID SVMS8 Method: SW8270E

MSD		Sample ID: 22020089-02A MSD				Units: µg/L		Analysis Date: 2/7/2022 07:37 PM		
Client ID:		Run ID: SVMS8_220207A			SeqNo: 8159265		Prep Date: 2/7/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	271.8	100	400	0	68	12-85	293.2	7.58	30	
2,4,5-Trichlorophenol	318.4	100	400	0	79.6	47-84	327.4	2.79	30	
2,4,6-Trichlorophenol	300.2	100	400	0	75	45-83	316.8	5.38	30	
2,4-Dinitrotoluene	313.2	100	400	0	78.3	54-93	338	7.62	30	
Hexachloro-1,3-butadiene	276.8	100	400	0	69.2	11-83	292.8	5.62	30	
Hexachlorobenzene	317.8	100	400	0	79.4	53-89	337.2	5.92	30	
Hexachloroethane	269.2	100	400	0	67.3	10-85	291.8	8.06	30	
m-Cresol	253	100	400	0	63.2	30-110	244	3.62	30	
Nitrobenzene	308.4	100	400	0	77.1	38-86	321.8	4.25	30	
o-Cresol	272.8	100	400	0	68.2	30-110	263.2	3.58	30	
p-Cresol	253	100	400	0	63.2	30-110	244	3.62	30	
Pentachlorophenol	308.6	100	400	0	77.2	37-94	324.4	4.99	30	
Pyridine	206.8	200	400	0	51.7	10-50	146.2	34.3	30	SR
Surr: 2,4,6-Tribromophenol	782.8	0	1000	0	78.3	27-83	807.8	3.14	40	
Surr: 2-Fluorobiphenyl	761	0	1000	0	76.1	26-79	774.2	1.72	40	
Surr: 2-Fluorophenol	490	0	1000	0	49	13-56	451.2	8.24	40	
Surr: 4-Terphenyl-d14	817.4	0	1000	0	81.7	43-106	842.2	2.99	40	
Surr: Nitrobenzene-d5	752.2	0	1000	0	75.2	29-80	771.6	2.55	40	
Surr: Phenol-d6	325.4	0	1000	0	32.5	10-35	290.2	11.4	40	

The following samples were analyzed in this batch:

22020094-02A 22020094-04A 22020094-06A
 22020094-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **R337666a** Instrument ID **VMS8** Method: **SW8260D**

MBLK				Sample ID: 8V-BLKW1-220207-R337666a			Units: µg/L		Analysis Date: 2/7/2022 12:21 PM		
Client ID:		Run ID: VMS8_220207A		SeqNo: 8157651		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
2-Butanone	ND	5.0									
Benzene	ND	2.5									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroform	ND	1.0									
Tetrachloroethene	ND	1.0									
Trichloroethene	ND	1.0									
Vinyl chloride	ND	1.0									
<i>Surr: 1,2-Dichloroethane-d4</i>	20.09	0	20	0	100	75-120	0				
<i>Surr: 4-Bromofluorobenzene</i>	19.44	0	20	0	97.2	80-110	0				
<i>Surr: Dibromofluoromethane</i>	19.75	0	20	0	98.8	85-115	0				
<i>Surr: Toluene-d8</i>	20.74	0	20	0	104	85-110	0				

LCS				Sample ID: 8V-LCSW1-220207-R337666a			Units: µg/L		Analysis Date: 2/7/2022 11:26 AM		
Client ID:		Run ID: VMS8_220207A		SeqNo: 8157649		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	22.79	1.0	20	0	114	70-145	0				
1,2-Dichloroethane	20.8	1.0	20	0	104	78-125	0				
2-Butanone	16.42	5.0	20	0	82.1	55-150	0				
Benzene	20.71	2.5	20	0	104	70-130	0				
Carbon tetrachloride	19.34	1.0	20	0	96.7	65-140	0				
Chlorobenzene	20.79	1.0	20	0	104	80-120	0				
Chloroform	19.02	1.0	20	0	95.1	66-135	0				
Tetrachloroethene	22.1	1.0	20	0	110	68-166	0				
Trichloroethene	19.71	1.0	20	0	98.6	77-125	0				
Vinyl chloride	18.11	1.0	20	0	90.6	50-136	0				
<i>Surr: 1,2-Dichloroethane-d4</i>	19.56	0	20	0	97.8	75-120	0				
<i>Surr: 4-Bromofluorobenzene</i>	19.98	0	20	0	99.9	80-110	0				
<i>Surr: Dibromofluoromethane</i>	19.84	0	20	0	99.2	85-115	0				
<i>Surr: Toluene-d8</i>	20.23	0	20	0	101	85-110	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: R337666a Instrument ID VMS8 Method: SW8260D

MS				Sample ID: 22020089-02A MS			Units: µg/L		Analysis Date: 2/7/2022 07:58 PM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157675		Prep Date:		DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	404	20	400	0	101	70-145		0			
1,2-Dichloroethane	397.8	20	400	0	99.4	78-125		0			
2-Butanone	362.4	100	400	0	90.6	55-150		0			
Benzene	403	50	400	0	101	70-130		0			
Carbon tetrachloride	391.8	20	400	0	98	65-140		0			
Chlorobenzene	396	20	400	0	99	80-120		0			
Chloroform	375.8	20	400	0	94	66-135		0			
Tetrachloroethene	445.8	20	400	0	111	68-166		0			
Trichloroethene	384.4	20	400	0	96.1	77-125		0			
Vinyl chloride	326	20	400	0	81.5	50-136		0			
<i>Surr: 1,2-Dichloroethane-d4</i>	422.6	0	400	0	106	75-120		0			
<i>Surr: 4-Bromofluorobenzene</i>	397	0	400	0	99.2	80-110		0			
<i>Surr: Dibromofluoromethane</i>	398.8	0	400	0	99.7	85-115		0			
<i>Surr: Toluene-d8</i>	423.2	0	400	0	106	85-110		0			

MSD				Sample ID: 22020089-02A MSD			Units: µg/L		Analysis Date: 2/7/2022 08:16 PM		
Client ID:		Run ID: VMS8_220207A			SeqNo: 8157676		Prep Date:		DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	442.8	20	400	0	111	70-145	404	9.16	30		
1,2-Dichloroethane	451.8	20	400	0	113	78-125	397.8	12.7	30		
2-Butanone	360.8	100	400	0	90.2	55-150	362.4	0.442	30		
Benzene	396.8	50	400	0	99.2	70-130	403	1.55	30		
Carbon tetrachloride	389	20	400	0	97.2	65-140	391.8	0.717	30		
Chlorobenzene	420.6	20	400	0	105	80-120	396	6.02	30		
Chloroform	393.4	20	400	0	98.4	66-135	375.8	4.58	30		
Tetrachloroethene	479.2	20	400	0	120	68-166	445.8	7.22	30		
Trichloroethene	386.6	20	400	0	96.6	77-125	384.4	0.571	30		
Vinyl chloride	365.2	20	400	0	91.3	50-136	326	11.3	30		
<i>Surr: 1,2-Dichloroethane-d4</i>	385.8	0	400	0	96.4	75-120	422.6	9.1	30		
<i>Surr: 4-Bromofluorobenzene</i>	387	0	400	0	96.8	80-110	397	2.55	30		
<i>Surr: Dibromofluoromethane</i>	387.8	0	400	0	97	85-115	398.8	2.8	30		
<i>Surr: Toluene-d8</i>	480.6	0	400	0	120	85-110	423.2	12.7	30	S	

The following samples were analyzed in this batch:

22020094-02A	22020094-04A	22020094-06A
22020094-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020094
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **R337556** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R337556				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151657		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R337556				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151656		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.98	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020092-07B DUP				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151638		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	20.68	0.10	0	0	0	0-0	21.46	3.7	10	

DUP		Sample ID: 22020092-16B DUP				Units: % of sample		Analysis Date: 2/3/2022 02:00 PM		
Client ID:		Run ID: MOIST_220203C				SeqNo: 8151648		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.06	0.10	0	0	0	0-0	11.95	0.916	10	

The following samples were analyzed in this batch:

22020094-01A	22020094-03A	22020094-05A
22020094-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 055116

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Coolidge Bioswales	A	TCLP VOCs											
Work Order		Project Number		B	TCLP SVOCs											
Company Name	DLZ	Bill To Company		C	TCLP RCRA Metals											
Send Report To	Dan McNeely	Invoice Attn		D	PCBs											
Address	1425 Keystone Ave	Address		E												
City/State/Zip	Lansing MI 48911	City/State/Zip		F												
Phone	517-393-6800	Phone		G												
Fax		Fax		H												
e-Mail Address	dmneely@dlz.com	e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SB-61(0-2') Comp.	2-1-22	0945	Soil	8	2	X	X	X	X							
2	SB-64(0-2') Comp.	↓	1100	Soil	8	2	X	X	X	X							
3	SB-65(0-2') Comp.		1115	Soil	8	2	X	X	X	X							
4	SB-72(0-2') Comp.		1500	Soil	8	2	X	X	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Dan McNeely</i>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 4 BD <input checked="" type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by: <i>Qs</i>	Date: 2-1-22	Time: 1750	Received by: <i>[Signature]</i>		Notes:						
Relinquished by: <i>[Signature]</i>	Date: 2/1/22	Time: 2345	Received by (Laboratory): <i>[Signature]</i>		Cooler ID: IR1	Cooler Temp.: 3.0°C	QC Package: (Check One Box Below)				
Logged by (Laboratory): <i>[Signature]</i>	Date: 2/2/22	Time: 0930	Checked by (Laboratory):		<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other _____						
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035											

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 01-Feb-22 23:45

Work Order: 22020094

Received by: LYS

Checklist completed by Lydia Sweet 02-Feb-22
eSignature Date

Reviewed by: Julian Johnson 02-Feb-22
eSignature Date

Matrices: Soil

Carrier name: Courier

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.0/3.0c IR1

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 2/2/2022 9:50:35 AM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



14-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **Coolidge Bioswales**

Work Order: **22020456**

Dear Dan,

ALS Environmental received 8 samples on 07-Feb-2022 11:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020456

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020456-01	SB-76 (0-2')	Soil		2/7/2022 11:55	2/7/2022 23:00	<input type="checkbox"/>
22020456-02	SB-76 (0-2')	Tclp Extract		2/7/2022 11:55	2/7/2022 23:00	<input type="checkbox"/>
22020456-03	SB-78 (0-2')	Soil		2/7/2022 13:10	2/7/2022 23:00	<input type="checkbox"/>
22020456-04	SB-78 (0-2')	Tclp Extract		2/7/2022 13:10	2/7/2022 23:00	<input type="checkbox"/>
22020456-05	SB-79 (0-2')	Soil		2/7/2022 16:00	2/7/2022 23:00	<input type="checkbox"/>
22020456-06	SB-79 (0-2')	Tclp Extract		2/7/2022 16:00	2/7/2022 23:00	<input type="checkbox"/>
22020456-07	SB-62 (0-2')	Soil		2/7/2022 16:30	2/7/2022 23:00	<input type="checkbox"/>
22020456-08	SB-62 (0-2')	Tclp Extract		2/7/2022 16:30	2/7/2022 23:00	<input type="checkbox"/>

Client: DLZ
Project: Coolidge Bioswales
Work Order: 22020456

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. A copy of the laboratory's scope of accreditation is available upon request.

Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

Any flags on MS/MSD samples not addressed in this narrative are unrelated to samples in this report.

With the following exceptions, all sample analyses achieved analytical criteria.

Method PCBLVI_8082_S, Sample 22020456-03A: One or more surrogate recoveries were below the lower control limits. The sample results may be biased low. Tetrachloro-m-xylene -Surrogate out due to matrix interference.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Date: 14-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (0-2')
Collection Date: 2/7/2022 11:55 AM

Work Order: 22020456
Lab ID: 22020456-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/9/22 12:27		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1221	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1232	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1242	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1248	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1254	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1260	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1262	ND		66	µg/Kg	1	2/9/2022 06:15 PM
Aroclor 1268	ND		66	µg/Kg	1	2/9/2022 06:15 PM
PCBs, Total	ND		66	µg/Kg	1	2/9/2022 06:15 PM
<i>Surr: Decachlorobiphenyl</i>	88.7		60-138	%REC	1	2/9/2022 06:15 PM
<i>Surr: Tetrachloro-m-xylene</i>	106		65-125	%REC	1	2/9/2022 06:15 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	11		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (0-2')
Collection Date: 2/7/2022 11:55 AM

Work Order: 22020456
Lab ID: 22020456-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/10/22 14:34		Analyst: ABL
Mercury	ND		0.0020	mg/L	1	2/10/2022 03:25 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/10/22 14:05		Analyst: ABL
Arsenic	ND		0.050	mg/L	1	2/10/2022 04:59 PM
Barium	0.32		0.050	mg/L	1	2/10/2022 04:59 PM
Cadmium	ND		0.10	mg/L	1	2/10/2022 04:59 PM
Chromium	ND		0.10	mg/L	1	2/10/2022 04:59 PM
Lead	ND		0.050	mg/L	1	2/10/2022 04:59 PM
Selenium	ND		0.10	mg/L	1	2/10/2022 04:59 PM
Silver	ND		0.050	mg/L	1	2/10/2022 04:59 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/10/22 15:18		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/10/2022 08:38 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/10/2022 08:38 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/10/2022 08:38 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/10/2022 08:38 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/10/2022 08:38 PM
Hexachlorobenzene	ND		100	µg/L	1	2/10/2022 08:38 PM
Hexachloroethane	ND		100	µg/L	1	2/10/2022 08:38 PM
m-Cresol	ND		100	µg/L	1	2/10/2022 08:38 PM
Nitrobenzene	ND		100	µg/L	1	2/10/2022 08:38 PM
o-Cresol	ND		100	µg/L	1	2/10/2022 08:38 PM
p-Cresol	ND		100	µg/L	1	2/10/2022 08:38 PM
Pentachlorophenol	ND		100	µg/L	1	2/10/2022 08:38 PM
Pyridine	ND		200	µg/L	1	2/10/2022 08:38 PM
Surr: 2,4,6-Tribromophenol	84.1	S	27-83	%REC	1	2/10/2022 08:38 PM
Surr: 2-Fluorobiphenyl	81.7	S	26-79	%REC	1	2/10/2022 08:38 PM
Surr: 2-Fluorophenol	56.0		13-56	%REC	1	2/10/2022 08:38 PM
Surr: 4-Terphenyl-d14	91.8		43-106	%REC	1	2/10/2022 08:38 PM
Surr: Nitrobenzene-d5	70.5		29-80	%REC	1	2/10/2022 08:38 PM
Surr: Phenol-d6	34.4		10-35	%REC	1	2/10/2022 08:38 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/10/22		Analyst: JNS
1,1-Dichloroethene	ND		20	µg/L	20	2/10/2022 02:58 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/10/2022 02:58 PM
2-Butanone	ND		100	µg/L	20	2/10/2022 02:58 PM
Benzene	ND		50	µg/L	20	2/10/2022 02:58 PM
Carbon tetrachloride	ND		20	µg/L	20	2/10/2022 02:58 PM
Chlorobenzene	ND		20	µg/L	20	2/10/2022 02:58 PM
Chloroform	ND		20	µg/L	20	2/10/2022 02:58 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-76 (0-2')
Collection Date: 2/7/2022 11:55 AM

Work Order: 22020456
Lab ID: 22020456-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/10/2022 02:58 PM
Trichloroethene	ND		20	µg/L	20	2/10/2022 02:58 PM
Vinyl chloride	ND		20	µg/L	20	2/10/2022 02:58 PM
Surr: 1,2-Dichloroethane-d4	106		75-120	%REC	20	2/10/2022 02:58 PM
Surr: 4-Bromofluorobenzene	96.0		80-110	%REC	20	2/10/2022 02:58 PM
Surr: Dibromofluoromethane	95.4		85-115	%REC	20	2/10/2022 02:58 PM
Surr: Toluene-d8	94.2		85-110	%REC	20	2/10/2022 02:58 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Feb-2022

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-78 (0-2')
Collection Date: 2/7/2022 01:10 PM

Work Order: 22020456
Lab ID: 22020456-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/9/22 12:27		Analyst: RM
Aroclor 1016	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1221	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1232	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1242	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1248	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1254	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1260	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1262	ND		65	µg/Kg	1	2/9/2022 07:19 PM
Aroclor 1268	ND		65	µg/Kg	1	2/9/2022 07:19 PM
PCBs, Total	ND		65	µg/Kg	1	2/9/2022 07:19 PM
<i>Surr: Decachlorobiphenyl</i>	65.7		60-138	%REC	1	2/9/2022 07:19 PM
<i>Surr: Tetrachloro-m-xylene</i>	58.9	S	65-125	%REC	1	2/9/2022 07:19 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	7.7		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-78 (0-2')
Collection Date: 2/7/2022 01:10 PM

Work Order: 22020456
Lab ID: 22020456-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/10/22 14:34		Analyst: ABL
Mercury	ND		0.0020	mg/L	1	2/10/2022 03:26 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/10/22 14:05		Analyst: ABL
Arsenic	ND		0.050	mg/L	1	2/10/2022 05:04 PM
Barium	0.84		0.050	mg/L	1	2/10/2022 05:04 PM
Cadmium	ND		0.10	mg/L	1	2/10/2022 05:04 PM
Chromium	ND		0.10	mg/L	1	2/10/2022 05:04 PM
Lead	0.57		0.050	mg/L	1	2/10/2022 05:04 PM
Selenium	ND		0.10	mg/L	1	2/10/2022 05:04 PM
Silver	ND		0.050	mg/L	1	2/10/2022 05:04 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/10/22 15:18		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/10/2022 09:02 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:02 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:02 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/10/2022 09:02 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/10/2022 09:02 PM
Hexachlorobenzene	ND		100	µg/L	1	2/10/2022 09:02 PM
Hexachloroethane	ND		100	µg/L	1	2/10/2022 09:02 PM
m-Cresol	ND		100	µg/L	1	2/10/2022 09:02 PM
Nitrobenzene	ND		100	µg/L	1	2/10/2022 09:02 PM
o-Cresol	ND		100	µg/L	1	2/10/2022 09:02 PM
p-Cresol	ND		100	µg/L	1	2/10/2022 09:02 PM
Pentachlorophenol	ND		100	µg/L	1	2/10/2022 09:02 PM
Pyridine	ND		200	µg/L	1	2/10/2022 09:02 PM
Surr: 2,4,6-Tribromophenol	82.8		27-83	%REC	1	2/10/2022 09:02 PM
Surr: 2-Fluorobiphenyl	76.6		26-79	%REC	1	2/10/2022 09:02 PM
Surr: 2-Fluorophenol	51.5		13-56	%REC	1	2/10/2022 09:02 PM
Surr: 4-Terphenyl-d14	94.3		43-106	%REC	1	2/10/2022 09:02 PM
Surr: Nitrobenzene-d5	66.1		29-80	%REC	1	2/10/2022 09:02 PM
Surr: Phenol-d6	32.2		10-35	%REC	1	2/10/2022 09:02 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/10/22		Analyst: JNS
1,1-Dichloroethene	ND		20	µg/L	20	2/10/2022 03:48 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/10/2022 03:48 PM
2-Butanone	ND		100	µg/L	20	2/10/2022 03:48 PM
Benzene	ND		50	µg/L	20	2/10/2022 03:48 PM
Carbon tetrachloride	ND		20	µg/L	20	2/10/2022 03:48 PM
Chlorobenzene	ND		20	µg/L	20	2/10/2022 03:48 PM
Chloroform	ND		20	µg/L	20	2/10/2022 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-78 (0-2')
Collection Date: 2/7/2022 01:10 PM

Work Order: 22020456
Lab ID: 22020456-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/10/2022 03:48 PM
Trichloroethene	ND		20	µg/L	20	2/10/2022 03:48 PM
Vinyl chloride	ND		20	µg/L	20	2/10/2022 03:48 PM
Surr: 1,2-Dichloroethane-d4	102		75-120	%REC	20	2/10/2022 03:48 PM
Surr: 4-Bromofluorobenzene	90.4		80-110	%REC	20	2/10/2022 03:48 PM
Surr: Dibromofluoromethane	97.3		85-115	%REC	20	2/10/2022 03:48 PM
Surr: Toluene-d8	91.2		85-110	%REC	20	2/10/2022 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-79 (0-2')
 Collection Date: 2/7/2022 04:00 PM

Work Order: 22020456
 Lab ID: 22020456-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/9/22 12:27		Analyst: RM
Aroclor 1016	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1221	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1232	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1242	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1248	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1254	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1260	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1262	ND		66	µg/Kg	1	2/9/2022 07:58 PM
Aroclor 1268	ND		66	µg/Kg	1	2/9/2022 07:58 PM
PCBs, Total	ND		66	µg/Kg	1	2/9/2022 07:58 PM
<i>Surr: Decachlorobiphenyl</i>	87.3		60-138	%REC	1	2/9/2022 07:58 PM
<i>Surr: Tetrachloro-m-xylene</i>	94.4		65-125	%REC	1	2/9/2022 07:58 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	18		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-79 (0-2')
 Collection Date: 2/7/2022 04:00 PM

Work Order: 22020456
 Lab ID: 22020456-06
 Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/10/22 14:34		Analyst: ABL
Mercury	ND		0.0020	mg/L	1	2/10/2022 03:28 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/10/22 14:05		Analyst: ABL
Arsenic	ND		0.050	mg/L	1	2/10/2022 05:09 PM
Barium	0.74		0.050	mg/L	1	2/10/2022 05:09 PM
Cadmium	ND		0.10	mg/L	1	2/10/2022 05:09 PM
Chromium	ND		0.10	mg/L	1	2/10/2022 05:09 PM
Lead	ND		0.050	mg/L	1	2/10/2022 05:09 PM
Selenium	ND		0.10	mg/L	1	2/10/2022 05:09 PM
Silver	ND		0.050	mg/L	1	2/10/2022 05:09 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/10/22 15:18		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/10/2022 09:25 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:25 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:25 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/10/2022 09:25 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/10/2022 09:25 PM
Hexachlorobenzene	ND		100	µg/L	1	2/10/2022 09:25 PM
Hexachloroethane	ND		100	µg/L	1	2/10/2022 09:25 PM
m-Cresol	ND		100	µg/L	1	2/10/2022 09:25 PM
Nitrobenzene	ND		100	µg/L	1	2/10/2022 09:25 PM
o-Cresol	ND		100	µg/L	1	2/10/2022 09:25 PM
p-Cresol	ND		100	µg/L	1	2/10/2022 09:25 PM
Pentachlorophenol	ND		100	µg/L	1	2/10/2022 09:25 PM
Pyridine	ND		200	µg/L	1	2/10/2022 09:25 PM
Surr: 2,4,6-Tribromophenol	82.2		27-83	%REC	1	2/10/2022 09:25 PM
Surr: 2-Fluorobiphenyl	85.3	S	26-79	%REC	1	2/10/2022 09:25 PM
Surr: 2-Fluorophenol	52.4		13-56	%REC	1	2/10/2022 09:25 PM
Surr: 4-Terphenyl-d14	91.6		43-106	%REC	1	2/10/2022 09:25 PM
Surr: Nitrobenzene-d5	70.3		29-80	%REC	1	2/10/2022 09:25 PM
Surr: Phenol-d6	31.0		10-35	%REC	1	2/10/2022 09:25 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/10/22		Analyst: JNS
1,1-Dichloroethene	ND		20	µg/L	20	2/10/2022 03:15 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/10/2022 03:15 PM
2-Butanone	ND		100	µg/L	20	2/10/2022 03:15 PM
Benzene	ND		50	µg/L	20	2/10/2022 03:15 PM
Carbon tetrachloride	ND		20	µg/L	20	2/10/2022 03:15 PM
Chlorobenzene	ND		20	µg/L	20	2/10/2022 03:15 PM
Chloroform	ND		20	µg/L	20	2/10/2022 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-79 (0-2')
Collection Date: 2/7/2022 04:00 PM

Work Order: 22020456
Lab ID: 22020456-06
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/10/2022 03:15 PM
Trichloroethene	ND		20	µg/L	20	2/10/2022 03:15 PM
Vinyl chloride	ND		20	µg/L	20	2/10/2022 03:15 PM
Surr: 1,2-Dichloroethane-d4	103		75-120	%REC	20	2/10/2022 03:15 PM
Surr: 4-Bromofluorobenzene	97.1		80-110	%REC	20	2/10/2022 03:15 PM
Surr: Dibromofluoromethane	93.9		85-115	%REC	20	2/10/2022 03:15 PM
Surr: Toluene-d8	91.8		85-110	%REC	20	2/10/2022 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: Coolidge Bioswales
 Sample ID: SB-62 (0-2')
 Collection Date: 2/7/2022 04:30 PM

Work Order: 22020456
 Lab ID: 22020456-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082A	Prep: SW3546 2/9/22 12:27		Analyst: RM
Aroclor 1016	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1221	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1232	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1242	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1248	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1254	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1260	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1262	ND		67	µg/Kg	1	2/9/2022 08:10 PM
Aroclor 1268	ND		67	µg/Kg	1	2/9/2022 08:10 PM
PCBs, Total	ND		67	µg/Kg	1	2/9/2022 08:10 PM
<i>Surr: Decachlorobiphenyl</i>	88.2		60-138	%REC	1	2/9/2022 08:10 PM
<i>Surr: Tetrachloro-m-xylene</i>	95.7		65-125	%REC	1	2/9/2022 08:10 PM
MOISTURE			SW3550C			Analyst: ALG
Moisture	14		0.10	% of sample	1	2/10/2022 12:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-62 (0-2')
Collection Date: 2/7/2022 04:30 PM

Work Order: 22020456
Lab ID: 22020456-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			SW7470A	Prep: SW7470 2/10/22 14:34		Analyst: ABL
Mercury	ND		0.0020	mg/L	1	2/10/2022 03:30 PM
TCLP METALS ANALYSIS BY ICP			SW6010D	Prep: SW3015A 2/10/22 14:05		Analyst: ABL
Arsenic	ND		0.050	mg/L	1	2/10/2022 05:29 PM
Barium	1.1		0.050	mg/L	1	2/10/2022 05:29 PM
Cadmium	ND		0.10	mg/L	1	2/10/2022 05:29 PM
Chromium	ND		0.10	mg/L	1	2/10/2022 05:29 PM
Lead	0.13		0.050	mg/L	1	2/10/2022 05:29 PM
Selenium	ND		0.10	mg/L	1	2/10/2022 05:29 PM
Silver	ND		0.050	mg/L	1	2/10/2022 05:29 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270E	Prep: SW3510 2/10/22 15:18		Analyst: EEW
1,4-Dichlorobenzene	ND		100	µg/L	1	2/10/2022 09:49 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:49 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	2/10/2022 09:49 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	2/10/2022 09:49 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	2/10/2022 09:49 PM
Hexachlorobenzene	ND		100	µg/L	1	2/10/2022 09:49 PM
Hexachloroethane	ND		100	µg/L	1	2/10/2022 09:49 PM
m-Cresol	ND		100	µg/L	1	2/10/2022 09:49 PM
Nitrobenzene	ND		100	µg/L	1	2/10/2022 09:49 PM
o-Cresol	ND		100	µg/L	1	2/10/2022 09:49 PM
p-Cresol	ND		100	µg/L	1	2/10/2022 09:49 PM
Pentachlorophenol	ND		100	µg/L	1	2/10/2022 09:49 PM
Pyridine	ND		200	µg/L	1	2/10/2022 09:49 PM
Surr: 2,4,6-Tribromophenol	79.6		27-83	%REC	1	2/10/2022 09:49 PM
Surr: 2-Fluorobiphenyl	82.0	S	26-79	%REC	1	2/10/2022 09:49 PM
Surr: 2-Fluorophenol	51.0		13-56	%REC	1	2/10/2022 09:49 PM
Surr: 4-Terphenyl-d14	90.0		43-106	%REC	1	2/10/2022 09:49 PM
Surr: Nitrobenzene-d5	68.1		29-80	%REC	1	2/10/2022 09:49 PM
Surr: Phenol-d6	29.7		10-35	%REC	1	2/10/2022 09:49 PM
TCLP VOLATILE ORGANICS			SW8260D	Leachate: SW1311 / 2/10/22		Analyst: JNS
1,1-Dichloroethene	ND		20	µg/L	20	2/10/2022 03:31 PM
1,2-Dichloroethane	ND		20	µg/L	20	2/10/2022 03:31 PM
2-Butanone	ND		100	µg/L	20	2/10/2022 03:31 PM
Benzene	ND		50	µg/L	20	2/10/2022 03:31 PM
Carbon tetrachloride	ND		20	µg/L	20	2/10/2022 03:31 PM
Chlorobenzene	ND		20	µg/L	20	2/10/2022 03:31 PM
Chloroform	ND		20	µg/L	20	2/10/2022 03:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: Coolidge Bioswales
Sample ID: SB-62 (0-2')
Collection Date: 2/7/2022 04:30 PM

Work Order: 22020456
Lab ID: 22020456-08
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		20	µg/L	20	2/10/2022 03:31 PM
Trichloroethene	ND		20	µg/L	20	2/10/2022 03:31 PM
Vinyl chloride	ND		20	µg/L	20	2/10/2022 03:31 PM
Surr: 1,2-Dichloroethane-d4	105		75-120	%REC	20	2/10/2022 03:31 PM
Surr: 4-Bromofluorobenzene	91.7		80-110	%REC	20	2/10/2022 03:31 PM
Surr: Dibromofluoromethane	97.2		85-115	%REC	20	2/10/2022 03:31 PM
Surr: Toluene-d8	89.4		85-110	%REC	20	2/10/2022 03:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191504 Instrument ID GC14 Method: SW8082A

MBLK		Sample ID: PBLKS1-191504-191504			Units: µg/Kg		Analysis Date: 2/9/2022 05:24 PM			
Client ID:		Run ID: GC14_220209A			SeqNo: 8165035		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	67								
Aroclor 1221	ND	67								
Aroclor 1232	ND	67								
Aroclor 1242	ND	67								
Aroclor 1248	ND	67								
Aroclor 1254	ND	67								
Aroclor 1260	ND	67								
Aroclor 1262	ND	67								
Aroclor 1268	ND	67								
PCBs, Total	ND	67								
Surr: Decachlorobiphenyl	36.92	0	33.3	0	111	60-138	0			
Surr: Tetrachloro-m-xylene	34	0	33.3	0	102	65-125	0			

LCS		Sample ID: PLCSS1-191504-191504			Units: µg/Kg		Analysis Date: 2/9/2022 05:37 PM			
Client ID:		Run ID: GC14_220209A			SeqNo: 8165036		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	778.1	67	833	0	93.4	72-125	0			
Aroclor 1260	848.2	67	833	0	102	64-125	0			
Surr: Decachlorobiphenyl	37.92	0	33.3	0	114	60-138	0			
Surr: Tetrachloro-m-xylene	34.55	0	33.3	0	104	65-125	0			

MS		Sample ID: 22020456-01A MS			Units: µg/Kg		Analysis Date: 2/9/2022 05:49 PM			
Client ID: SB-76 (0-2')		Run ID: GC14_220209A			SeqNo: 8165037		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	860.7	66	821.3	0	105	72-125	0			
Aroclor 1260	858.8	66	821.3	0	105	64-125	0			
Surr: Decachlorobiphenyl	36.23	0	32.83	0	110	60-138	0			
Surr: Tetrachloro-m-xylene	35.48	0	32.83	0	108	65-125	0			

MSD		Sample ID: 22020456-01A MSD			Units: µg/Kg		Analysis Date: 2/9/2022 06:02 PM			
Client ID: SB-76 (0-2')		Run ID: GC14_220209A			SeqNo: 8165038		Prep Date: 2/9/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	808.7	66	826.4	0	97.9	72-125	860.7	6.23	20	
Aroclor 1260	852.3	66	826.4	0	103	64-125	858.8	0.756	20	
Surr: Decachlorobiphenyl	36.33	0	33.04	0	110	60-138	36.23	0.257	20	
Surr: Tetrachloro-m-xylene	34.51	0	33.04	0	104	65-125	35.48	2.77	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020456
Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **191504** Instrument ID **GC14** Method: **SW8082A**

The following samples were analyzed in this batch:

22020456-01A	22020456-03A	22020456-05A
22020456-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191548 Instrument ID HG4 Method: SW7470A

MBLK		Sample ID: MBLK-191548-191548				Units: mg/L		Analysis Date: 2/10/2022 03:02 PM		
Client ID:		Run ID: HG4_220210A		SeqNo: 8166058		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.00020

LCS		Sample ID: LCS-191548-191548				Units: mg/L		Analysis Date: 2/10/2022 03:03 PM		
Client ID:		Run ID: HG4_220210A		SeqNo: 8166059		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002085 0.00020 0.002 0 104 80-120 0

MS		Sample ID: 22020190-01EMS				Units: mg/L		Analysis Date: 2/10/2022 03:10 PM		
Client ID:		Run ID: HG4_220210A		SeqNo: 8166063		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00213 0.00020 0.002 -0.0000135 107 75-125 0

MSD		Sample ID: 22020190-01EMSD				Units: mg/L		Analysis Date: 2/10/2022 03:12 PM		
Client ID:		Run ID: HG4_220210A		SeqNo: 8166064		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.0021 0.00020 0.002 -0.0000135 106 75-125 0.00213 1.42 20

The following samples were analyzed in this batch:

22020456-02A	22020456-04A	22020456-06A
22020456-08A		

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191579 Instrument ID ICP2 Method: SW6010D

MBLK		Sample ID: MBLK-191579-191579				Units: mg/L		Analysis Date: 2/10/2022 04:30 PM		
Client ID:		Run ID: ICP2_220210A			SeqNo: 8167788		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.010								
Chromium	0.004708	0.0050								J
Lead	ND	0.0050								
Selenium	ND	0.010								
Silver	ND	0.0050								

LCS		Sample ID: LCS-191579-191579				Units: mg/L		Analysis Date: 2/10/2022 04:35 PM		
Client ID:		Run ID: ICP2_220210A			SeqNo: 8167789		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09185	0.0050	0.1	0	91.8	80-120	0			
Barium	0.1053	0.0050	0.1	0	105	80-120	0			
Cadmium	0.09636	0.010	0.1	0	96.4	80-120	0			
Chromium	0.108	0.0050	0.1	0	108	80-120	0			
Lead	0.09416	0.0050	0.1	0	94.2	80-120	0			
Selenium	0.09537	0.010	0.1	0	95.4	80-120	0			
Silver	0.09218	0.0050	0.1	0	92.2	80-120	0			

MS		Sample ID: 22020190-01EMS				Units: mg/L		Analysis Date: 2/10/2022 04:45 PM		
Client ID:		Run ID: ICP2_220210A			SeqNo: 8167791		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1038	0.0050	0.1	0.008987	94.9	75-125	0			
Barium	0.1665	0.0050	0.1	0.05995	107	75-125	0			
Cadmium	0.09823	0.010	0.1	0	98.2	75-125	0			
Chromium	0.1042	0.0050	0.1	0.001068	103	75-125	0			
Lead	0.09086	0.0050	0.1	-0.001683	92.5	75-125	0			
Selenium	0.1006	0.010	0.1	0.003223	97.4	75-125	0			
Silver	0.09174	0.0050	0.1	-0.0008063	92.5	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191579 Instrument ID ICP2 Method: SW6010D

MSD		Sample ID: 22020190-01EMSD				Units: mg/L		Analysis Date: 2/10/2022 04:50 PM		
Client ID:		Run ID: ICP2_220210A			SeqNo: 8167792		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1042	0.0050	0.1	0.008987	95.2	75-125	0.1038	0.317	20	
Barium	0.164	0.0050	0.1	0.05995	104	75-125	0.1665	1.5	20	
Cadmium	0.09908	0.010	0.1	0	99.1	75-125	0.09823	0.861	20	
Chromium	0.1071	0.0050	0.1	0.001068	106	75-125	0.1042	2.74	20	
Lead	0.09251	0.0050	0.1	-0.001683	94.2	75-125	0.09086	1.8	20	
Selenium	0.1024	0.010	0.1	0.003223	99.2	75-125	0.1006	1.73	20	
Silver	0.09324	0.0050	0.1	-0.0008063	94	75-125	0.09174	1.63	20	

The following samples were analyzed in this batch:

22020456-02A	22020456-04A	22020456-06A
22020456-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191554 Instrument ID SVMS9 Method: SW8270E

MBLK		Sample ID: SBLKW1-191554-191554				Units: µg/L		Analysis Date: 2/10/2022 07:05 PM		
Client ID:		Run ID: SVMS9_220210A		SeqNo: 8167983		Prep Date: 2/10/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Hexachloro-1,3-butadiene	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachloroethane	ND	5.0								
m-Cresol	ND	5.0								
Nitrobenzene	ND	5.0								
o-Cresol	ND	5.0								
p-Cresol	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	38.83	0	50	0	77.7	27-83		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.16	0	50	0	76.3	26-79		0		
<i>Surr: 2-Fluorophenol</i>	26.74	0	50	0	53.5	13-56		0		
<i>Surr: 4-Terphenyl-d14</i>	46.3	0	50	0	92.6	43-106		0		
<i>Surr: Nitrobenzene-d5</i>	33.01	0	50	0	66	29-80		0		
<i>Surr: Phenol-d6</i>	16.74	0	50	0	33.5	10-35		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191554 Instrument ID SVMS9 Method: SW8270E

LCS		Sample ID: SLCSW1-191554-191554				Units: µg/L		Analysis Date: 2/10/2022 07:28 PM		
Client ID:		Run ID: SVMS9_220210A			SeqNo: 8167984		Prep Date: 2/10/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	14.68	5.0	20	0	73.4	12-85	0			
2,4,5-Trichlorophenol	17.15	5.0	20	0	85.8	47-84	0			S
2,4,6-Trichlorophenol	16.33	5.0	20	0	81.6	45-83	0			
2,4-Dinitrotoluene	15.29	5.0	20	0	76.4	54-93	0			
Hexachloro-1,3-butadiene	16.45	5.0	20	0	82.2	11-83	0			
Hexachlorobenzene	17.7	5.0	20	0	88.5	53-89	0			
Hexachloroethane	14.92	5.0	20	0	74.6	10-85	0			
m-Cresol	11.6	5.0	20	0	58	30-110	0			
Nitrobenzene	15.71	5.0	20	0	78.6	38-86	0			
o-Cresol	12.82	5.0	20	0	64.1	30-110	0			
p-Cresol	11.6	5.0	20	0	58	30-110	0			
Pentachlorophenol	14.93	5.0	20	0	74.6	37-94	0			
Pyridine	9.11	10	20	0	45.6	10-50	0			J
Surr: 2,4,6-Tribromophenol	42.77	0	50	0	85.5	27-83	0			S
Surr: 2-Fluorobiphenyl	41.69	0	50	0	83.4	26-79	0			S
Surr: 2-Fluorophenol	25.35	0	50	0	50.7	13-56	0			
Surr: 4-Terphenyl-d14	43.66	0	50	0	87.3	43-106	0			
Surr: Nitrobenzene-d5	36.37	0	50	0	72.7	29-80	0			
Surr: Phenol-d6	15	0	50	0	30	10-35	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191554 Instrument ID SVMS9 Method: SW8270E

MS		Sample ID: 22020456-02A MS				Units: µg/L		Analysis Date: 2/10/2022 07:52 PM		
Client ID: SB-76 (0-2')		Run ID: SVMS9_220210A				SeqNo: 8167985		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	309.6	100	400	0	77.4	12-85	0			
2,4,5-Trichlorophenol	370	100	400	0	92.5	47-84	0			S
2,4,6-Trichlorophenol	352	100	400	0	88	45-83	0			S
2,4-Dinitrotoluene	359.4	100	400	0	89.8	54-93	0			
Hexachloro-1,3-butadiene	307.6	100	400	0	76.9	11-83	0			
Hexachlorobenzene	343.8	100	400	0	86	53-89	0			
Hexachloroethane	307.6	100	400	0	76.9	10-85	0			
m-Cresol	282	100	400	0	70.5	30-110	0			
Nitrobenzene	328.4	100	400	0	82.1	38-86	0			
o-Cresol	301.8	100	400	0	75.4	30-110	0			
p-Cresol	282	100	400	0	70.5	30-110	0			
Pentachlorophenol	341.2	100	400	0	85.3	37-94	0			
Pyridine	153.6	200	400	0	38.4	10-50	0			J
Surr: 2,4,6-Tribromophenol	886.6	0	1000	0	88.7	27-83	0			S
Surr: 2-Fluorobiphenyl	833.8	0	1000	0	83.4	26-79	0			S
Surr: 2-Fluorophenol	566.6	0	1000	0	56.7	13-56	0			S
Surr: 4-Terphenyl-d14	924	0	1000	0	92.4	43-106	0			
Surr: Nitrobenzene-d5	741.6	0	1000	0	74.2	29-80	0			
Surr: Phenol-d6	355.8	0	1000	0	35.6	10-35	0			S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: 191554 Instrument ID SVMS9 Method: SW8270E

MSD		Sample ID: 22020456-02A MSD				Units: µg/L		Analysis Date: 2/10/2022 08:15 PM		
Client ID: SB-76 (0-2')		Run ID: SVMS9_220210A				SeqNo: 8167986		Prep Date: 2/10/2022		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	300.8	100	400	0	75.2	12-85	309.6	2.88	30	
2,4,5-Trichlorophenol	363.6	100	400	0	90.9	47-84	370	1.74	30	S
2,4,6-Trichlorophenol	352.4	100	400	0	88.1	45-83	352	0.114	30	S
2,4-Dinitrotoluene	336.2	100	400	0	84	54-93	359.4	6.67	30	
Hexachloro-1,3-butadiene	311.8	100	400	0	78	11-83	307.6	1.36	30	
Hexachlorobenzene	351.2	100	400	0	87.8	53-89	343.8	2.13	30	
Hexachloroethane	301.4	100	400	0	75.4	10-85	307.6	2.04	30	
m-Cresol	262.6	100	400	0	65.6	30-110	282	7.12	30	
Nitrobenzene	324	100	400	0	81	38-86	328.4	1.35	30	
o-Cresol	283	100	400	0	70.8	30-110	301.8	6.43	30	
p-Cresol	262.6	100	400	0	65.6	30-110	282	7.12	30	
Pentachlorophenol	320.8	100	400	0	80.2	37-94	341.2	6.16	30	
Pyridine	165	200	400	0	41.2	10-50	153.6	0	30	J
Surr: 2,4,6-Tribromophenol	913	0	1000	0	91.3	27-83	886.6	2.93	40	S
Surr: 2-Fluorobiphenyl	854.6	0	1000	0	85.5	26-79	833.8	2.46	40	S
Surr: 2-Fluorophenol	554	0	1000	0	55.4	13-56	566.6	2.25	40	
Surr: 4-Terphenyl-d14	972.6	0	1000	0	97.3	43-106	924	5.12	40	
Surr: Nitrobenzene-d5	744	0	1000	0	74.4	29-80	741.6	0.323	40	
Surr: Phenol-d6	338	0	1000	0	33.8	10-35	355.8	5.13	40	

The following samples were analyzed in this batch:

22020456-02A	22020456-04A	22020456-06A
22020456-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: R337920c Instrument ID VMS10 Method: SW8260D

MBLK				Sample ID: 10V-BLKW1-220210-R337920c			Units: µg/L		Analysis Date: 2/10/2022 11:38 AM		
Client ID:		Run ID: VMS10_220210A		SeqNo: 8167153		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
2-Butanone	ND	5.0									
Benzene	ND	2.5									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroform	ND	1.0									
Tetrachloroethene	ND	1.0									
Trichloroethene	ND	1.0									
Vinyl chloride	ND	1.0									
Surr: 1,2-Dichloroethane-d4	20.44	0	20	0	102	75-120		0			
Surr: 4-Bromofluorobenzene	18.44	0	20	0	92.2	80-110		0			
Surr: Dibromofluoromethane	20.06	0	20	0	100	85-115		0			
Surr: Toluene-d8	17.58	0	20	0	87.9	85-110		0			

LCS				Sample ID: 10V-LCSW1-220210-R337920c			Units: µg/L		Analysis Date: 2/10/2022 10:48 AM		
Client ID:		Run ID: VMS10_220210A		SeqNo: 8167149		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	17.32	1.0	20	0	86.6	70-145		0			
1,2-Dichloroethane	19.06	1.0	20	0	95.3	78-125		0			
2-Butanone	18.03	5.0	20	0	90.2	55-150		0			
Benzene	18.26	2.5	20	0	91.3	70-130		0			
Carbon tetrachloride	16.7	1.0	20	0	83.5	65-140		0			
Chlorobenzene	17.99	1.0	20	0	90	80-120		0			
Chloroform	17.9	1.0	20	0	89.5	66-135		0			
Tetrachloroethene	19.29	1.0	20	0	96.4	68-166		0			
Trichloroethene	18.47	1.0	20	0	92.4	77-125		0			
Vinyl chloride	15.27	1.0	20	0	76.4	50-136		0			
Surr: 1,2-Dichloroethane-d4	20.12	0	20	0	101	75-120		0			
Surr: 4-Bromofluorobenzene	19.16	0	20	0	95.8	80-110		0			
Surr: Dibromofluoromethane	20.13	0	20	0	101	85-115		0			
Surr: Toluene-d8	19.39	0	20	0	97	85-110		0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: R337920c Instrument ID VMS10 Method: SW8260D

MS				Sample ID: 22020539-01A MS			Units: µg/L		Analysis Date: 2/10/2022 05:44 PM		
Client ID:		Run ID: VMS10_220210A		SeqNo: 8167190		Prep Date:		DF: 250			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	3965	250	5000	0	79.3	70-145	0				
1,2-Dichloroethane	4352	250	5000	0	87	78-125	0				
2-Butanone	4610	1,200	5000	1288	66.4	55-150	0				
Benzene	13340	620	5000	9035	86	70-130	0				
Carbon tetrachloride	3672	250	5000	807.5	57.3	65-140	0			S	
Chlorobenzene	4058	250	5000	0	81.2	80-120	0				
Chloroform	4092	250	5000	0	81.8	66-135	0				
Tetrachloroethene	4160	250	5000	0	83.2	68-166	0				
Trichloroethene	4190	250	5000	0	83.8	77-125	0				
Vinyl chloride	3978	250	5000	0	79.6	50-136	0				
<i>Surr: 1,2-Dichloroethane-d4</i>	5032	0	5000	0	101	75-120	0				
<i>Surr: 4-Bromofluorobenzene</i>	4888	0	5000	0	97.8	80-110	0				
<i>Surr: Dibromofluoromethane</i>	4938	0	5000	0	98.8	85-115	0				
<i>Surr: Toluene-d8</i>	4858	0	5000	0	97.2	85-110	0				

MSD				Sample ID: 22020539-01A MSD			Units: µg/L		Analysis Date: 2/10/2022 06:01 PM		
Client ID:		Run ID: VMS10_220210A		SeqNo: 8167191		Prep Date:		DF: 250			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	4432	250	5000	0	88.6	70-145	3965	11.1	30		
1,2-Dichloroethane	4638	250	5000	0	92.8	78-125	4352	6.34	30		
2-Butanone	4782	1,200	5000	1288	69.9	55-150	4610	3.67	30		
Benzene	14370	620	5000	9035	107	70-130	13340	7.47	30		
Carbon tetrachloride	3992	250	5000	807.5	63.7	65-140	3672	8.35	30	S	
Chlorobenzene	4492	250	5000	0	89.8	80-120	4058	10.2	30		
Chloroform	4512	250	5000	0	90.2	66-135	4092	9.76	30		
Tetrachloroethene	4598	250	5000	0	92	68-166	4160	9.99	30		
Trichloroethene	4428	250	5000	0	88.6	77-125	4190	5.51	30		
Vinyl chloride	4502	250	5000	0	90	50-136	3978	12.4	30		
<i>Surr: 1,2-Dichloroethane-d4</i>	5042	0	5000	0	101	75-120	5032	0.199	30		
<i>Surr: 4-Bromofluorobenzene</i>	4798	0	5000	0	96	80-110	4888	1.86	30		
<i>Surr: Dibromofluoromethane</i>	4982	0	5000	0	99.6	85-115	4938	0.907	30		
<i>Surr: Toluene-d8</i>	4740	0	5000	0	94.8	85-110	4858	2.45	30		

The following samples were analyzed in this batch:

22020456-02A	22020456-04A	22020456-06A
22020456-08A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020456
 Project: Coolidge Bioswales

QC BATCH REPORT

Batch ID: **R338010** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R338010				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167745		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R338010				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167744		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP		Sample ID: 22020447-06B DUP				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167733		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.05	0.10	0	0	0	0-0	5.14	1.77	10	

DUP		Sample ID: 22020472-01A DUP				Units: % of sample		Analysis Date: 2/10/2022 12:41 PM		
Client ID:		Run ID: MOIST_220210B		SeqNo: 8167743		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.96	0.10	0	0	0	0-0	7.72	14.9	10	R

The following samples were analyzed in this batch:

22020456-01A	22020456-03A	22020456-05A
22020456-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

Page 1 of 1

COC ID: **51289**

ALS Project Manager:

ALS Work Order #: 22020456

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Coolidge Bisswales</u>	A	<u>TCLP VOCs</u>										
Work Order		Project Number		B	<u>TCLP SVOCs</u>										
Company Name	<u>DLZ Michigan, Inc.</u>	Bill To Company		C	<u>TCLP RCRA Metals</u>										
Send Report To	<u>Dan McNeely</u>	Invoice Attn		D	<u>PCBs</u>										
Address	<u>1425 Keystone Ave</u>	Address		E											
				F											
City/State/Zip	<u>Lansing MI 48911</u>	City/State/Zip		G											
Phone	<u>517-393-6800</u>	Phone		H											
Fax		Fax		I											
e-Mail Address	<u>dmcneely@dlz.com</u>	e-Mail Address		J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>SB-76 (0-2')</u>	<u>2-7-22</u>	<u>1155</u>	<u>Soil</u>	<u>8</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
2	<u>SB-78 (0-2')</u>	<u>2-7-22</u>	<u>1310</u>	<u>Soil</u>	<u>8</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
3	<u>SB-79 (0-2')</u>	<u>2-7-22</u>	<u>1600</u>	<u>Soil</u>	<u>8</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
4	<u>SB-62 (0-2')</u>	<u>2-7-22</u>	<u>1630</u>	<u>Soil</u>	<u>8</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:				
Relinquished by:	Date: <u>2-7-22</u>	Time: <u>1750</u>	Received by:		Notes:							
Relinquished by:	Date: <u>2-7-22</u>	Time: <u>1800</u>	Received by (Laboratory):		Cooler ID	Cooler Temp	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date: <u>2/8/22</u>	Time: <u>0900</u>	Checked by (Laboratory):		<u>1R3</u>	<u>4.7°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV				
							<input type="checkbox"/> Level IV SW846/CLP					
							<input type="checkbox"/> Other					

Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 07-Feb-22 23:00

Work Order: 22020456

Received by: DS

Checklist completed by Diane Shaw 08-Feb-22

Reviewed by: Julian Johnson 09-Feb-22

Matrices: Soil
Carrier name: Courier

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []
Sample(s) received on ice? Yes [checked] No []

Temperature(s)/Thermometer(s): 4.7/5.7 c IR3

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 2/8/2022 9:10:47 AM

Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]

Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]

pH adjusted? Yes [] No [] N/A [checked]

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



17-Feb-2022

Dan McNeely
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Re: **DDOT Coolidge (1942-6994-50)**

Work Order: **22020744**

Dear Dan,

ALS Environmental received 5 samples on 09-Feb-2022 11:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 60.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julian Johnson

Electronically approved by: Julian Johnson

Julian Johnson

Report of Laboratory Analysis

Certificate No: MI: 0022

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Work Order: 22020744

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22020744-01	TW-62	Groundwater		2/9/2022 12:10	2/9/2022 23:00	<input type="checkbox"/>
22020744-02	TW-80	Groundwater		2/9/2022 15:07	2/9/2022 23:00	<input type="checkbox"/>
22020744-03	TW-67	Groundwater		2/9/2022 16:00	2/9/2022 23:00	<input type="checkbox"/>
22020744-04	TW-73	Groundwater		2/9/2022 16:30	2/9/2022 23:00	<input type="checkbox"/>
22020744-05	DUP-01	Groundwater		2/9/2022 12:00	2/9/2022 23:00	<input type="checkbox"/>

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Work Order: 22020744

Case Narrative

Samples for the above noted Work Order were received on 2/9/2022. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Method VOC_8260_W, Sample 22020744-04A: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Method VOC_8260_W, Sample 22020744-04A MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: 1,2,4-trimethylbenzene, naphthalene

Method VOC_8260_W, Sample 22020744-04A MSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: 1,2,4-trimethylbenzene, naphthalene

Extractable Organics:

Method SVO_8270_WLL, Sample SLCSW1-191683: The LCS recovery was above the upper control limit. The sample results for this batch may be biased high for this analyte: 2-Methylnaphthalene; Fluoranthene; Naphthalene

No other deviations or anomalies were noted.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Work Order: 22020744

Case Narrative

Metals:

Note: The acceptability of internal standard recoveries has been reviewed for each sample by the analyst. All recoveries were found to be within the method specified criteria of > 70%, unless otherwise noted in this report.
No other deviations or anomalies were noted.

Wet Chemistry:

No other deviations or anomalies were noted.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
WorkOrder: 22020744

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: TW-62
 Collection Date: 2/9/2022 12:10 PM

Work Order: 22020744
 Lab ID: 22020744-01
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470A	Prep: SW7470 2/14/22 12:54		Analyst: EJC
Mercury	ND		0.00020	mg/L	1	2/14/2022 02:14 PM
METALS BY ICP-MS			SW6020B	Prep: SW3015A 2/14/22 13:03		Analyst: DSC
Arsenic	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Barium	0.037		0.0050	mg/L	1	2/14/2022 09:03 PM
Cadmium	ND		0.0020	mg/L	1	2/14/2022 09:03 PM
Chromium	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Copper	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Lead	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Selenium	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Silver	ND		0.0050	mg/L	1	2/14/2022 09:03 PM
Zinc	ND		0.010	mg/L	1	2/14/2022 09:03 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 2/14/22 14:31		Analyst: EEW
1,1'-Biphenyl	ND		1.0	µg/L	1	2/14/2022 07:00 PM
1,2,4,5-Tetrachlorobenzene	ND		5.0	µg/L	1	2/14/2022 07:00 PM
1,4-Dioxane	ND		5.0	µg/L	1	2/14/2022 07:00 PM
2,2'-Oxybis(1-chloropropane)	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,3,4,6-Tetrachlorophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,4,5-Trichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,4,6-Trichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,4-Dichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,4-Dimethylphenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,4-Dinitrophenol	ND		5.0	µg/L	1	2/14/2022 07:00 PM
2,4-Dinitrotoluene	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2,6-Dinitrotoluene	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2-Chloronaphthalene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
2-Chlorophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2-Methylnaphthalene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
2-Methylphenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:00 PM
2-Nitrophenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
3&4-Methylphenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
3,3'-Dichlorobenzidine	ND		5.0	µg/L	1	2/14/2022 07:00 PM
3-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4,6-Dinitro-2-methylphenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4-Bromophenyl phenyl ether	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4-Chloro-3-methylphenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4-Chloroaniline	ND		1.0	µg/L	1	2/14/2022 07:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: TW-62
 Collection Date: 2/9/2022 12:10 PM

Work Order: 22020744
 Lab ID: 22020744-01
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:00 PM
4-Nitrophenol	ND		5.0	µg/L	1	2/14/2022 07:00 PM
Acenaphthene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Acenaphthylene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Acetophenone	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Anthracene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Atrazine	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Benzaldehyde	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Benzo(a)anthracene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Benzo(a)pyrene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Benzo(b)fluoranthene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Benzo(g,h,i)perylene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Benzo(k)fluoranthene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Bis(2-chloroethoxy)methane	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Bis(2-chloroethyl)ether	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Bis(2-ethylhexyl)phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Butyl benzyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Caprolactam	ND		5.0	µg/L	1	2/14/2022 07:00 PM
Carbazole	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Chrysene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Dibenzo(a,h)anthracene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Dibenzofuran	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Diethyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Dimethyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Di-n-butyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Di-n-octyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Fluoranthene	0.16		0.10	µg/L	1	2/14/2022 07:00 PM
Fluorene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Hexachlorobenzene	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Hexachlorobutadiene	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Hexachlorocyclopentadiene	ND		5.0	µg/L	1	2/14/2022 07:00 PM
Hexachloroethane	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Indeno(1,2,3-cd)pyrene	ND		0.10	µg/L	1	2/14/2022 07:00 PM
Isophorone	ND		5.0	µg/L	1	2/14/2022 07:00 PM
Naphthalene	0.14		0.10	µg/L	1	2/14/2022 07:00 PM
Nitrobenzene	ND		1.0	µg/L	1	2/14/2022 07:00 PM
N-Nitrosodi-n-propylamine	ND		1.0	µg/L	1	2/14/2022 07:00 PM
N-Nitrosodiphenylamine	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Pentachlorophenol	ND		5.0	µg/L	1	2/14/2022 07:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-62
Collection Date: 2/9/2022 12:10 PM

Work Order: 22020744
Lab ID: 22020744-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	0.20		0.10	µg/L	1	2/14/2022 07:00 PM
Phenol	ND		1.0	µg/L	1	2/14/2022 07:00 PM
Pyrene	0.13		0.10	µg/L	1	2/14/2022 07:00 PM
Surr: 2,4,6-Tribromophenol	77.1		27-83	%REC	1	2/14/2022 07:00 PM
Surr: 2-Fluorobiphenyl	73.2		26-79	%REC	1	2/14/2022 07:00 PM
Surr: 2-Fluorophenol	37.6		13-56	%REC	1	2/14/2022 07:00 PM
Surr: 4-Terphenyl-d14	60.0		43-106	%REC	1	2/14/2022 07:00 PM
Surr: Nitrobenzene-d5	63.0		29-80	%REC	1	2/14/2022 07:00 PM
Surr: Phenol-d6	25.7		10-35	%REC	1	2/14/2022 07:00 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Analyst: HJ

1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
2-Butanone	ND		5.0	µg/L	1	2/11/2022 04:23 PM
2-Hexanone	ND		5.0	µg/L	1	2/11/2022 04:23 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	2/11/2022 04:23 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Acetone	ND		10	µg/L	1	2/11/2022 04:23 PM
Acrylonitrile	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Benzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Bromochloromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Bromodichloromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Bromoform	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Bromomethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-62
Collection Date: 2/9/2022 12:10 PM

Work Order: 22020744
Lab ID: 22020744-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Carbon tetrachloride	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Chlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Chloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Chloroform	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Chloromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Dibromochloromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Dibromomethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Diethyl ether	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Ethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Hexachloroethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Isopropylbenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
m,p-Xylene	ND		2.0	µg/L	1	2/11/2022 04:23 PM
Methyl iodide	ND		5.0	µg/L	1	2/11/2022 04:23 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Methylene chloride	ND		5.0	µg/L	1	2/11/2022 04:23 PM
Naphthalene	ND		5.0	µg/L	1	2/11/2022 04:23 PM
n-Propylbenzene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
o-Xylene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Styrene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Tetrachloroethene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Toluene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	2/11/2022 04:23 PM
Trichloroethene	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Vinyl acetate	ND		5.0	µg/L	1	2/11/2022 04:23 PM
Vinyl chloride	ND		1.0	µg/L	1	2/11/2022 04:23 PM
Xylenes, Total	ND		3.0	µg/L	1	2/11/2022 04:23 PM
Surr: 1,2-Dichloroethane-d4	102		75-120	%REC	1	2/11/2022 04:23 PM
Surr: 4-Bromofluorobenzene	92.0		80-110	%REC	1	2/11/2022 04:23 PM
Surr: Dibromofluoromethane	97.0		85-115	%REC	1	2/11/2022 04:23 PM
Surr: Toluene-d8	95.6		85-110	%REC	1	2/11/2022 04:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-80
Collection Date: 2/9/2022 03:07 PM

Work Order: 22020744
Lab ID: 22020744-02
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470A	Prep: SW7470 2/14/22 12:54		Analyst: EJC
Mercury	ND		0.00020	mg/L	1	2/14/2022 02:16 PM
METALS BY ICP-MS			SW6020B	Prep: SW3015A 2/14/22 13:03		Analyst: DSC
Arsenic	ND		0.0050	mg/L	1	2/14/2022 09:06 PM
Barium	0.038		0.0050	mg/L	1	2/14/2022 09:06 PM
Cadmium	ND		0.0020	mg/L	1	2/14/2022 09:06 PM
Chromium	ND		0.0050	mg/L	1	2/14/2022 09:06 PM
Copper	0.0088		0.0050	mg/L	1	2/14/2022 09:06 PM
Lead	ND		0.0050	mg/L	1	2/14/2022 09:06 PM
Selenium	ND		0.0050	mg/L	1	2/14/2022 09:06 PM
Silver	ND		0.0050	mg/L	1	2/14/2022 09:06 PM
Zinc	ND		0.010	mg/L	1	2/14/2022 09:06 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 2/14/22 14:31		Analyst: EEW
1,1'-Biphenyl	ND		1.0	µg/L	1	2/14/2022 07:27 PM
1,2,4,5-Tetrachlorobenzene	ND		5.0	µg/L	1	2/14/2022 07:27 PM
1,4-Dioxane	ND		5.0	µg/L	1	2/14/2022 07:27 PM
2,2'-Oxybis(1-chloropropane)	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,3,4,6-Tetrachlorophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,4,5-Trichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,4,6-Trichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,4-Dichlorophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,4-Dimethylphenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,4-Dinitrophenol	ND		5.0	µg/L	1	2/14/2022 07:27 PM
2,4-Dinitrotoluene	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2,6-Dinitrotoluene	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2-Chloronaphthalene	ND		0.10	µg/L	1	2/14/2022 07:27 PM
2-Chlorophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2-Methylnaphthalene	ND		0.10	µg/L	1	2/14/2022 07:27 PM
2-Methylphenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:27 PM
2-Nitrophenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
3&4-Methylphenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
3,3'-Dichlorobenzidine	ND		5.0	µg/L	1	2/14/2022 07:27 PM
3-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4,6-Dinitro-2-methylphenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4-Bromophenyl phenyl ether	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4-Chloro-3-methylphenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4-Chloroaniline	ND		1.0	µg/L	1	2/14/2022 07:27 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: TW-80
 Collection Date: 2/9/2022 03:07 PM

Work Order: 22020744
 Lab ID: 22020744-02
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4-Nitroaniline	ND		1.0	µg/L	1	2/14/2022 07:27 PM
4-Nitrophenol	ND		5.0	µg/L	1	2/14/2022 07:27 PM
Acenaphthene	0.10		0.10	µg/L	1	2/14/2022 07:27 PM
Acenaphthylene	ND		0.10	µg/L	1	2/14/2022 07:27 PM
Acetophenone	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Anthracene	0.22		0.10	µg/L	1	2/14/2022 07:27 PM
Atrazine	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Benzaldehyde	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Benzo(a)anthracene	0.44		0.10	µg/L	1	2/14/2022 07:27 PM
Benzo(a)pyrene	0.35		0.10	µg/L	1	2/14/2022 07:27 PM
Benzo(b)fluoranthene	0.47		0.10	µg/L	1	2/14/2022 07:27 PM
Benzo(g,h,i)perylene	0.20		0.10	µg/L	1	2/14/2022 07:27 PM
Benzo(k)fluoranthene	0.17		0.10	µg/L	1	2/14/2022 07:27 PM
Bis(2-chloroethoxy)methane	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Bis(2-chloroethyl)ether	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Bis(2-ethylhexyl)phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Butyl benzyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Caprolactam	ND		5.0	µg/L	1	2/14/2022 07:27 PM
Carbazole	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Chrysene	0.36		0.10	µg/L	1	2/14/2022 07:27 PM
Dibenzo(a,h)anthracene	ND		0.10	µg/L	1	2/14/2022 07:27 PM
Dibenzofuran	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Diethyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Dimethyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Di-n-butyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Di-n-octyl phthalate	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Fluoranthene	0.90		0.10	µg/L	1	2/14/2022 07:27 PM
Fluorene	ND		0.10	µg/L	1	2/14/2022 07:27 PM
Hexachlorobenzene	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Hexachlorobutadiene	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Hexachlorocyclopentadiene	ND		5.0	µg/L	1	2/14/2022 07:27 PM
Hexachloroethane	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Indeno(1,2,3-cd)pyrene	0.27		0.10	µg/L	1	2/14/2022 07:27 PM
Isophorone	ND		5.0	µg/L	1	2/14/2022 07:27 PM
Naphthalene	0.65		0.10	µg/L	1	2/14/2022 07:27 PM
Nitrobenzene	ND		1.0	µg/L	1	2/14/2022 07:27 PM
N-Nitrosodi-n-propylamine	ND		1.0	µg/L	1	2/14/2022 07:27 PM
N-Nitrosodiphenylamine	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Pentachlorophenol	ND		5.0	µg/L	1	2/14/2022 07:27 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: TW-80
 Collection Date: 2/9/2022 03:07 PM

Work Order: 22020744
 Lab ID: 22020744-02
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	0.60		0.10	µg/L	1	2/14/2022 07:27 PM
Phenol	ND		1.0	µg/L	1	2/14/2022 07:27 PM
Pyrene	0.64		0.10	µg/L	1	2/14/2022 07:27 PM
Surr: 2,4,6-Tribromophenol	78.7		27-83	%REC	1	2/14/2022 07:27 PM
Surr: 2-Fluorobiphenyl	71.7		26-79	%REC	1	2/14/2022 07:27 PM
Surr: 2-Fluorophenol	38.9		13-56	%REC	1	2/14/2022 07:27 PM
Surr: 4-Terphenyl-d14	62.0		43-106	%REC	1	2/14/2022 07:27 PM
Surr: Nitrobenzene-d5	62.8		29-80	%REC	1	2/14/2022 07:27 PM
Surr: Phenol-d6	25.9		10-35	%REC	1	2/14/2022 07:27 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Analyst: HJ

1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
2-Butanone	ND		5.0	µg/L	1	2/11/2022 04:47 PM
2-Hexanone	ND		5.0	µg/L	1	2/11/2022 04:47 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	2/11/2022 04:47 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Acetone	ND		10	µg/L	1	2/11/2022 04:47 PM
Acrylonitrile	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Benzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Bromochloromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Bromodichloromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Bromoform	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Bromomethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-80
Collection Date: 2/9/2022 03:07 PM

Work Order: 22020744
Lab ID: 22020744-02
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Carbon tetrachloride	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Chlorobenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Chloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Chloroform	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Chloromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Dibromochloromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Dibromomethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Diethyl ether	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Ethylbenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Hexachloroethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Isopropylbenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
m,p-Xylene	ND		2.0	µg/L	1	2/11/2022 04:47 PM
Methyl iodide	ND		5.0	µg/L	1	2/11/2022 04:47 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Methylene chloride	ND		5.0	µg/L	1	2/11/2022 04:47 PM
Naphthalene	ND		5.0	µg/L	1	2/11/2022 04:47 PM
n-Propylbenzene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
o-Xylene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Styrene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Tetrachloroethene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Toluene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	2/11/2022 04:47 PM
Trichloroethene	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Vinyl acetate	ND		5.0	µg/L	1	2/11/2022 04:47 PM
Vinyl chloride	ND		1.0	µg/L	1	2/11/2022 04:47 PM
Xylenes, Total	ND		3.0	µg/L	1	2/11/2022 04:47 PM
Surr: 1,2-Dichloroethane-d4	101		75-120	%REC	1	2/11/2022 04:47 PM
Surr: 4-Bromofluorobenzene	96.6		80-110	%REC	1	2/11/2022 04:47 PM
Surr: Dibromofluoromethane	98.2		85-115	%REC	1	2/11/2022 04:47 PM
Surr: Toluene-d8	95.2		85-110	%REC	1	2/11/2022 04:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-67
Collection Date: 2/9/2022 04:00 PM

Work Order: 22020744
Lab ID: 22020744-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470A	Prep: SW7470 2/14/22 12:54		Analyst: EJC
Mercury	ND		0.00020	mg/L	1	2/14/2022 02:18 PM
METALS BY ICP-MS			SW6020B	Prep: SW3015A 2/14/22 13:03		Analyst: DSC
Arsenic	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Barium	0.040		0.0050	mg/L	1	2/14/2022 09:08 PM
Cadmium	ND		0.0020	mg/L	1	2/14/2022 09:08 PM
Chromium	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Copper	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Lead	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Selenium	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Silver	ND		0.0050	mg/L	1	2/14/2022 09:08 PM
Zinc	ND		0.010	mg/L	1	2/14/2022 09:08 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C			Analyst: HJ
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
2-Butanone	ND		5.0	µg/L	1	2/14/2022 06:11 PM
2-Hexanone	ND		5.0	µg/L	1	2/14/2022 06:11 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	2/14/2022 06:11 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Acetone	ND		10	µg/L	1	2/14/2022 06:11 PM
Acrylonitrile	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Benzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-67
Collection Date: 2/9/2022 04:00 PM

Work Order: 22020744
Lab ID: 22020744-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Bromochloromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Bromodichloromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Bromoform	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Bromomethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Carbon disulfide	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Carbon tetrachloride	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Chlorobenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Chloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Chloroform	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Chloromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Dibromochloromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Dibromomethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Diethyl ether	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Ethylbenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Hexachloroethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Isopropylbenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
m,p-Xylene	ND		2.0	µg/L	1	2/14/2022 06:11 PM
Methyl iodide	ND		5.0	µg/L	1	2/14/2022 06:11 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Methylene chloride	ND		5.0	µg/L	1	2/14/2022 06:11 PM
Naphthalene	ND		5.0	µg/L	1	2/14/2022 06:11 PM
n-Propylbenzene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
o-Xylene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Styrene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Tetrachloroethene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Toluene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	2/14/2022 06:11 PM
Trichloroethene	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Vinyl acetate	ND		5.0	µg/L	1	2/14/2022 06:11 PM
Vinyl chloride	ND		1.0	µg/L	1	2/14/2022 06:11 PM
Xylenes, Total	ND		3.0	µg/L	1	2/14/2022 06:11 PM
Surr: 1,2-Dichloroethane-d4	105		75-120	%REC	1	2/14/2022 06:11 PM
Surr: 4-Bromofluorobenzene	92.4		80-110	%REC	1	2/14/2022 06:11 PM
Surr: Dibromofluoromethane	101		85-115	%REC	1	2/14/2022 06:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-67
Collection Date: 2/9/2022 04:00 PM

Work Order: 22020744
Lab ID: 22020744-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Toluene-d8	89.9		85-110	%REC	1	2/14/2022 06:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: TW-73
 Collection Date: 2/9/2022 04:30 PM

Work Order: 22020744
 Lab ID: 22020744-04
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470A	Prep: SW7470 2/14/22 12:54		Analyst: EJC
Mercury	ND		0.00020	mg/L	1	2/14/2022 02:25 PM
METALS BY ICP-MS			SW6020B	Prep: SW3015A 2/14/22 13:03		Analyst: DSC
Arsenic	0.062		0.0050	mg/L	1	2/14/2022 09:15 PM
Barium	0.058		0.0050	mg/L	1	2/14/2022 09:15 PM
Cadmium	ND		0.0020	mg/L	1	2/14/2022 09:15 PM
Chromium	ND		0.0050	mg/L	1	2/14/2022 09:15 PM
Copper	ND		0.0050	mg/L	1	2/14/2022 09:15 PM
Lead	ND		0.0050	mg/L	1	2/14/2022 09:15 PM
Selenium	ND		0.0050	mg/L	1	2/14/2022 09:15 PM
Silver	ND		0.0050	mg/L	1	2/14/2022 09:15 PM
Zinc	ND		0.010	mg/L	1	2/14/2022 09:15 PM
VOLATILE ORGANIC COMPOUNDS			SW8260C			Analyst: MF
1,1,1,2-Tetrachloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1,1-Trichloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1,2,2-Tetrachloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1,2-Trichloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1,2-Trichlorotrifluoroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1-Dichloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,1-Dichloroethene	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2,3-Trichloropropane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2,4-Trichlorobenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2,4-Trimethylbenzene	580		25	µg/L	25	2/16/2022 12:53 PM
1,2-Dibromo-3-chloropropane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2-Dibromoethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2-Dichlorobenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2-Dichloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,2-Dichloropropane	ND		25	µg/L	25	2/16/2022 12:53 PM
1,3,5-Trimethylbenzene	170		25	µg/L	25	2/16/2022 12:53 PM
1,3-Dichlorobenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
1,4-Dichlorobenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
2-Butanone	ND		120	µg/L	25	2/16/2022 12:53 PM
2-Hexanone	ND		120	µg/L	25	2/16/2022 12:53 PM
2-Methylnaphthalene	1,800		120	µg/L	25	2/16/2022 12:53 PM
4-Methyl-2-pentanone	ND		25	µg/L	25	2/16/2022 12:53 PM
Acetone	ND		250	µg/L	25	2/16/2022 12:53 PM
Acrylonitrile	ND		25	µg/L	25	2/16/2022 12:53 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: TW-73
Collection Date: 2/9/2022 04:30 PM

Work Order: 22020744
Lab ID: 22020744-04
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		25	µg/L	25	2/16/2022 12:53 PM
Bromochloromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Bromodichloromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Bromoform	ND		25	µg/L	25	2/16/2022 12:53 PM
Bromomethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Carbon disulfide	33		25	µg/L	25	2/16/2022 12:53 PM
Carbon tetrachloride	ND		25	µg/L	25	2/16/2022 12:53 PM
Chlorobenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
Chloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Chloroform	ND		25	µg/L	25	2/16/2022 12:53 PM
Chloromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
cis-1,2-Dichloroethene	ND		25	µg/L	25	2/16/2022 12:53 PM
cis-1,3-Dichloropropene	ND		25	µg/L	25	2/16/2022 12:53 PM
Dibromochloromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Dibromomethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Dichlorodifluoromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Diethyl ether	ND		25	µg/L	25	2/16/2022 12:53 PM
Ethylbenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
Hexachloroethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Isopropylbenzene	ND		25	µg/L	25	2/16/2022 12:53 PM
m,p-Xylene	120		50	µg/L	25	2/16/2022 12:53 PM
Methyl iodide	ND		120	µg/L	25	2/16/2022 12:53 PM
Methyl tert-butyl ether	ND		25	µg/L	25	2/16/2022 12:53 PM
Methylene chloride	ND		120	µg/L	25	2/16/2022 12:53 PM
Naphthalene	690		120	µg/L	25	2/16/2022 12:53 PM
n-Propylbenzene	31		25	µg/L	25	2/16/2022 12:53 PM
o-Xylene	92		25	µg/L	25	2/16/2022 12:53 PM
Styrene	ND		25	µg/L	25	2/16/2022 12:53 PM
Tetrachloroethene	ND		25	µg/L	25	2/16/2022 12:53 PM
Toluene	ND		25	µg/L	25	2/16/2022 12:53 PM
trans-1,2-Dichloroethene	ND		25	µg/L	25	2/16/2022 12:53 PM
trans-1,3-Dichloropropene	ND		25	µg/L	25	2/16/2022 12:53 PM
trans-1,4-Dichloro-2-butene	ND		50	µg/L	25	2/16/2022 12:53 PM
Trichloroethene	ND		25	µg/L	25	2/16/2022 12:53 PM
Trichlorofluoromethane	ND		25	µg/L	25	2/16/2022 12:53 PM
Vinyl acetate	ND		120	µg/L	25	2/16/2022 12:53 PM
Vinyl chloride	ND		25	µg/L	25	2/16/2022 12:53 PM
Xylenes, Total	210		75	µg/L	25	2/16/2022 12:53 PM
Surr: 1,2-Dichloroethane-d4	102		75-120	%REC	100	2/11/2022 05:34 PM
Surr: 1,2-Dichloroethane-d4	102		75-120	%REC	25	2/16/2022 12:53 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ**Project:** DDOT Coolidge (1942-6994-50)**Work Order:** 22020744**Sample ID:** TW-73**Lab ID:** 22020744-04**Collection Date:** 2/9/2022 04:30 PM**Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Bromofluorobenzene	108		80-110	%REC	100	2/11/2022 05:34 PM
Surr: 4-Bromofluorobenzene	95.5		80-110	%REC	25	2/16/2022 12:53 PM
Surr: Dibromofluoromethane	100		85-115	%REC	100	2/11/2022 05:34 PM
Surr: Dibromofluoromethane	102		85-115	%REC	25	2/16/2022 12:53 PM
Surr: Toluene-d8	101		85-110	%REC	25	2/16/2022 12:53 PM
Surr: Toluene-d8	93.2		85-110	%REC	100	2/11/2022 05:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: DUP-01
Collection Date: 2/9/2022 12:00 PM

Work Order: 22020744
Lab ID: 22020744-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470A	Prep: SW7470 2/14/22 12:54		Analyst: EJC
Mercury	ND		0.00020	mg/L	1	2/14/2022 02:27 PM
METALS BY ICP-MS			SW6020B	Prep: SW3015A 2/14/22 13:03		Analyst: DSC
Arsenic	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Barium	0.037		0.0050	mg/L	1	2/14/2022 09:17 PM
Cadmium	ND		0.0020	mg/L	1	2/14/2022 09:17 PM
Chromium	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Copper	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Lead	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Selenium	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Silver	ND		0.0050	mg/L	1	2/14/2022 09:17 PM
Zinc	ND		0.010	mg/L	1	2/14/2022 09:17 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 2/14/22 14:31		Analyst: EEW
1,1'-Biphenyl	ND		4.0	µg/L	1	2/14/2022 07:55 PM
1,2,4,5-Tetrachlorobenzene	ND		20	µg/L	1	2/14/2022 07:55 PM
1,4-Dioxane	ND		20	µg/L	1	2/14/2022 07:55 PM
2,2'-Oxybis(1-chloropropane)	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,3,4,6-Tetrachlorophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,4,5-Trichlorophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,4,6-Trichlorophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,4-Dichlorophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,4-Dimethylphenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,4-Dinitrophenol	ND		20	µg/L	1	2/14/2022 07:55 PM
2,4-Dinitrotoluene	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2,6-Dinitrotoluene	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2-Chloronaphthalene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
2-Chlorophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2-Methylnaphthalene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
2-Methylphenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2-Nitroaniline	ND		4.0	µg/L	1	2/14/2022 07:55 PM
2-Nitrophenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
3&4-Methylphenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
3,3'-Dichlorobenzidine	ND		20	µg/L	1	2/14/2022 07:55 PM
3-Nitroaniline	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4,6-Dinitro-2-methylphenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4-Bromophenyl phenyl ether	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4-Chloro-3-methylphenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4-Chloroaniline	ND		4.0	µg/L	1	2/14/2022 07:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Project: DDOT Coolidge (1942-6994-50)
 Sample ID: DUP-01
 Collection Date: 2/9/2022 12:00 PM

Work Order: 22020744
 Lab ID: 22020744-05
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorophenyl phenyl ether	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4-Nitroaniline	ND		4.0	µg/L	1	2/14/2022 07:55 PM
4-Nitrophenol	ND		20	µg/L	1	2/14/2022 07:55 PM
Acenaphthene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Acenaphthylene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Acetophenone	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Anthracene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Atrazine	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Benzaldehyde	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Benzo(a)anthracene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Benzo(a)pyrene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Benzo(b)fluoranthene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Benzo(g,h,i)perylene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Benzo(k)fluoranthene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Bis(2-chloroethoxy)methane	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Bis(2-chloroethyl)ether	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Bis(2-ethylhexyl)phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Butyl benzyl phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Caprolactam	ND		20	µg/L	1	2/14/2022 07:55 PM
Carbazole	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Chrysene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Dibenzo(a,h)anthracene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Dibenzofuran	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Diethyl phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Dimethyl phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Di-n-butyl phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Di-n-octyl phthalate	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Fluoranthene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Fluorene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Hexachlorobenzene	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Hexachlorobutadiene	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Hexachlorocyclopentadiene	ND		20	µg/L	1	2/14/2022 07:55 PM
Hexachloroethane	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Indeno(1,2,3-cd)pyrene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Isophorone	ND		20	µg/L	1	2/14/2022 07:55 PM
Naphthalene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Nitrobenzene	ND		4.0	µg/L	1	2/14/2022 07:55 PM
N-Nitrosodi-n-propylamine	ND		4.0	µg/L	1	2/14/2022 07:55 PM
N-Nitrosodiphenylamine	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Pentachlorophenol	ND		20	µg/L	1	2/14/2022 07:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: DUP-01
Collection Date: 2/9/2022 12:00 PM

Work Order: 22020744
Lab ID: 22020744-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Phenol	ND		4.0	µg/L	1	2/14/2022 07:55 PM
Pyrene	ND		0.40	µg/L	1	2/14/2022 07:55 PM
Surr: 2,4,6-Tribromophenol	75.2		27-83	%REC	1	2/14/2022 07:55 PM
Surr: 2-Fluorobiphenyl	62.3		26-79	%REC	1	2/14/2022 07:55 PM
Surr: 2-Fluorophenol	35.4		13-56	%REC	1	2/14/2022 07:55 PM
Surr: 4-Terphenyl-d14	65.5		43-106	%REC	1	2/14/2022 07:55 PM
Surr: Nitrobenzene-d5	56.8		29-80	%REC	1	2/14/2022 07:55 PM
Surr: Phenol-d6	24.4		10-35	%REC	1	2/14/2022 07:55 PM

VOLATILE ORGANIC COMPOUNDS

SW8260C

Analyst: **HJ**

1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
2-Butanone	ND		5.0	µg/L	1	2/14/2022 05:47 PM
2-Hexanone	ND		5.0	µg/L	1	2/14/2022 05:47 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	2/14/2022 05:47 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Acetone	ND		10	µg/L	1	2/14/2022 05:47 PM
Acrylonitrile	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Benzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Bromochloromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Bromodichloromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Bromoform	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Bromomethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Feb-2022

Client: DLZ
Project: DDOT Coolidge (1942-6994-50)
Sample ID: DUP-01
Collection Date: 2/9/2022 12:00 PM

Work Order: 22020744
Lab ID: 22020744-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Carbon tetrachloride	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Chlorobenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Chloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Chloroform	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Chloromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Dibromochloromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Dibromomethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Diethyl ether	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Ethylbenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Hexachloroethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Isopropylbenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
m,p-Xylene	ND		2.0	µg/L	1	2/14/2022 05:47 PM
Methyl iodide	ND		5.0	µg/L	1	2/14/2022 05:47 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Methylene chloride	ND		5.0	µg/L	1	2/14/2022 05:47 PM
Naphthalene	ND		5.0	µg/L	1	2/14/2022 05:47 PM
n-Propylbenzene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
o-Xylene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Styrene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Tetrachloroethene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Toluene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	2/14/2022 05:47 PM
Trichloroethene	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Vinyl acetate	ND		5.0	µg/L	1	2/14/2022 05:47 PM
Vinyl chloride	ND		1.0	µg/L	1	2/14/2022 05:47 PM
Xylenes, Total	ND		3.0	µg/L	1	2/14/2022 05:47 PM
Surr: 1,2-Dichloroethane-d4	102		75-120	%REC	1	2/14/2022 05:47 PM
Surr: 4-Bromofluorobenzene	93.5		80-110	%REC	1	2/14/2022 05:47 PM
Surr: Dibromofluoromethane	101		85-115	%REC	1	2/14/2022 05:47 PM
Surr: Toluene-d8	93.4		85-110	%REC	1	2/14/2022 05:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191677 Instrument ID HG4 Method: SW7470A

MBLK		Sample ID: MBLK-191677-191677				Units: mg/L		Analysis Date: 2/14/2022 01:53 PM		
Client ID:		Run ID: HG4_220214A		SeqNo: 8172120		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.00020

LCS		Sample ID: LCS-191677-191677				Units: mg/L		Analysis Date: 2/14/2022 01:55 PM		
Client ID:		Run ID: HG4_220214A		SeqNo: 8172121		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00225 0.00020 0.002 0 112 80-120 0

MS		Sample ID: 22020611-02CMS				Units: mg/L		Analysis Date: 2/14/2022 02:05 PM		
Client ID:		Run ID: HG4_220214A		SeqNo: 8172127		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00234 0.00020 0.002 0.0000135 116 75-125 0

MSD		Sample ID: 22020611-02CMSD				Units: mg/L		Analysis Date: 2/14/2022 02:07 PM		
Client ID:		Run ID: HG4_220214A		SeqNo: 8172128		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00237 0.00020 0.002 0.0000135 118 75-125 0.00234 1.27 20

The following samples were analyzed in this batch:

22020744-01B	22020744-02B	22020744-03B
22020744-04B	22020744-05B	

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191709 Instrument ID ICPMS4 Method: SW6020B

MBLK		Sample ID: MBLK-191709-191709				Units: mg/L		Analysis Date: 2/14/2022 08:13 PM		
Client ID:		Run ID: ICPMS4_220214A		SeqNo: 8173148		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.0020								
Chromium	0.001416	0.0050								J
Copper	ND	0.0050								
Lead	ND	0.0050								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Zinc	ND	0.010								

LCS		Sample ID: LCS-191709-191709				Units: mg/L		Analysis Date: 2/14/2022 08:15 PM		
Client ID:		Run ID: ICPMS4_220214A		SeqNo: 8173149		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0906	0.0050	0.1	0	90.6	80-120	0			
Barium	0.09864	0.0050	0.1	0	98.6	80-120	0			
Cadmium	0.09724	0.0020	0.1	0	97.2	80-120	0			
Chromium	0.08851	0.0050	0.1	0	88.5	80-120	0			
Copper	0.0895	0.0050	0.1	0	89.5	80-120	0			
Lead	0.09388	0.0050	0.1	0	93.9	80-120	0			
Selenium	0.09412	0.0050	0.1	0	94.1	80-120	0			
Silver	0.08653	0.0050	0.1	0	86.5	80-120	0			
Zinc	0.0938	0.010	0.1	0	93.8	80-120	0			

MS		Sample ID: 22020362-02BMS				Units: mg/L		Analysis Date: 2/14/2022 08:39 PM		
Client ID:		Run ID: ICPMS4_220214A		SeqNo: 8173160		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09947	0.0010	0.1	0.004213	95.3	75-125	0			
Barium	0.2751	0.0050	0.1	0.1835	91.5	75-125	0			
Cadmium	0.09235	0.00020	0.1	-0.0000341	92.4	75-125	0			
Chromium	0.08962	0.0010	0.1	0.001613	88	75-125	0			B
Copper	0.08471	0.0010	0.1	-0.002961	87.7	75-125	0			
Lead	0.09464	0.0010	0.1	0.0000627	94.6	75-125	0			
Selenium	0.1003	0.0010	0.1	0.0005698	99.7	75-125	0			
Silver	0.08006	0.00020	0.1	0.0000429	80	75-125	0			
Zinc	0.1108	0.010	0.1	0.02466	86.2	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191709 Instrument ID ICPMS4 Method: SW6020B

MSD		Sample ID: 22020362-02BMSD				Units: mg/L		Analysis Date: 2/14/2022 08:41 PM		
Client ID:		Run ID: ICPMS4_220214A			SeqNo: 8173161		Prep Date: 2/14/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0993	0.0010	0.1	0.004213	95.1	75-125	0.09947	0.169	20	
Barium	0.271	0.0050	0.1	0.1835	87.5	75-125	0.2751	1.49	20	
Cadmium	0.09208	0.00020	0.1	-0.0000341	92.1	75-125	0.09235	0.296	20	
Chromium	0.08994	0.0010	0.1	0.001613	88.3	75-125	0.08962	0.359	20	B
Copper	0.08477	0.0010	0.1	-0.002961	87.7	75-125	0.08471	0.0766	20	
Lead	0.09487	0.0010	0.1	0.0000627	94.8	75-125	0.09464	0.25	20	
Selenium	0.1033	0.0010	0.1	0.0005698	103	75-125	0.1003	3	20	
Silver	0.07992	0.00020	0.1	0.0000429	79.9	75-125	0.08006	0.172	20	
Zinc	0.1097	0.010	0.1	0.02466	85.1	75-125	0.1108	1	20	

The following samples were analyzed in this batch:

22020744-01B	22020744-02B	22020744-03B
22020744-04B	22020744-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683 Instrument ID SVMS10 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-191683-191683			Units: µg/L		Analysis Date: 2/14/2022 03:48 PM			
Client ID:		Run ID: SVMS10_220214A			SeqNo: 8174480		Prep Date: 2/14/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	1.0								
1,2,4,5-Tetrachlorobenzene	ND	5.0								
1,4-Dioxane	ND	5.0								
2,2'-Oxybis(1-chloropropane)	ND	1.0								
2,3,4,6-Tetrachlorophenol	ND	1.0								
2,4,5-Trichlorophenol	ND	1.0								
2,4,6-Trichlorophenol	ND	1.0								
2,4-Dichlorophenol	ND	1.0								
2,4-Dimethylphenol	ND	1.0								
2,4-Dinitrophenol	ND	5.0								
2,4-Dinitrotoluene	ND	1.0								
2,6-Dinitrotoluene	ND	1.0								
2-Chloronaphthalene	ND	0.10								
2-Chlorophenol	ND	1.0								
2-Methylnaphthalene	ND	0.10								
2-Methylphenol	ND	1.0								
2-Nitroaniline	ND	1.0								
2-Nitrophenol	ND	1.0								
3&4-Methylphenol	ND	1.0								
3,3'-Dichlorobenzidine	ND	5.0								
3-Nitroaniline	ND	1.0								
4,6-Dinitro-2-methylphenol	ND	1.0								
4-Bromophenyl phenyl ether	ND	1.0								
4-Chloro-3-methylphenol	ND	1.0								
4-Chloroaniline	ND	1.0								
4-Chlorophenyl phenyl ether	ND	1.0								
4-Nitroaniline	ND	1.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	0.10								
Acenaphthylene	ND	0.10								
Acetophenone	ND	1.0								
Anthracene	ND	0.10								
Atrazine	ND	1.0								
Benzaldehyde	ND	1.0								
Benzo(a)anthracene	ND	0.10								
Benzo(a)pyrene	ND	0.10								
Benzo(b)fluoranthene	ND	0.10								
Benzo(g,h,i)perylene	ND	0.10								
Benzo(k)fluoranthene	ND	0.10								
Bis(2-chloroethoxy)methane	ND	1.0								
Bis(2-chloroethyl)ether	ND	1.0								
Bis(2-ethylhexyl)phthalate	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683	Instrument ID SVMS10	Method: SW846 8270D					
Butyl benzyl phthalate	ND	1.0					
Caprolactam	ND	5.0					
Carbazole	ND	1.0					
Chrysene	ND	0.10					
Dibenzo(a,h)anthracene	ND	0.10					
Dibenzofuran	ND	1.0					
Diethyl phthalate	ND	1.0					
Dimethyl phthalate	ND	1.0					
Di-n-butyl phthalate	ND	1.0					
Di-n-octyl phthalate	ND	1.0					
Fluoranthene	ND	0.10					
Fluorene	ND	0.10					
Hexachlorobenzene	ND	1.0					
Hexachlorobutadiene	ND	1.0					
Hexachlorocyclopentadiene	ND	5.0					
Hexachloroethane	ND	1.0					
Indeno(1,2,3-cd)pyrene	ND	0.10					
Isophorone	ND	5.0					
Naphthalene	ND	0.10					
Nitrobenzene	ND	1.0					
N-Nitrosodi-n-propylamine	ND	1.0					
N-Nitrosodiphenylamine	ND	1.0					
Pentachlorophenol	ND	5.0					
Phenanthrene	ND	0.10					
Phenol	ND	1.0					
Pyrene	ND	0.10					
<i>Surr: 2,4,6-Tribromophenol</i>	36.42	0	50	0	72.8	27-83	0
<i>Surr: 2-Fluorobiphenyl</i>	36.65	0	50	0	73.3	26-79	0
<i>Surr: 2-Fluorophenol</i>	22.7	0	50	0	45.4	13-56	0
<i>Surr: 4-Terphenyl-d14</i>	35.54	0	50	0	71.1	43-106	0
<i>Surr: Nitrobenzene-d5</i>	33.44	0	50	0	66.9	29-80	0
<i>Surr: Phenol-d6</i>	14.64	0	50	0	29.3	10-35	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683 Instrument ID SVMS10 Method: SW846 8270D

LCS		Sample ID: SLCSW1-191683-191683				Units: µg/L		Analysis Date: 2/14/2022 04:15 PM		
Client ID:		Run ID: SVMS10_220214A			SeqNo: 8174481		Prep Date: 2/14/2022		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	16.94	1.0	20	0	84.7	40-85	0			
1,2,4,5-Tetrachlorobenzene	16.48	5.0	20	0	82.4	34-82	0			S
2,2'-Oxybis(1-chloropropane)	12.4	1.0	20	0	62	33-83	0			
2,3,4,6-Tetrachlorophenol	18.79	1.0	20	0	94	43-104	0			
2,4,5-Trichlorophenol	17.33	1.0	20	0	86.6	47-84	0			S
2,4,6-Trichlorophenol	16.51	1.0	20	0	82.6	45-83	0			
2,4-Dichlorophenol	17.46	1.0	20	0	87.3	39-84	0			S
2,4-Dimethylphenol	15.99	1.0	20	0	80	34-79	0			S
2,4-Dinitrophenol	16.85	5.0	20	0	84.2	11-117	0			
2,4-Dinitrotoluene	18.38	1.0	20	0	91.9	54-93	0			
2,6-Dinitrotoluene	17.32	1.0	20	0	86.6	51-90	0			
2-Chloronaphthalene	16.24	0.10	20	0	81.2	37-84	0			
2-Chlorophenol	15.85	1.0	20	0	79.2	38-83	0			
2-Methylnaphthalene	17.3	0.10	20	0	86.5	33-85	0			S
2-Methylphenol	14.3	1.0	20	0	71.5	29-76	0			
2-Nitroaniline	14.63	1.0	20	0	73.2	45-94	0			
2-Nitrophenol	16.5	1.0	20	0	82.5	41-84	0			
3&4-Methylphenol	12.48	1.0	20	0	62.4	24-70	0			
3,3'-Dichlorobenzidine	16.61	5.0	20	0	83	39-96	0			
3-Nitroaniline	17.39	1.0	20	0	87	50-93	0			
4,6-Dinitro-2-methylphenol	18.77	1.0	20	0	93.8	23-116	0			
4-Bromophenyl phenyl ether	17.39	1.0	20	0	87	51-93	0			
4-Chloro-3-methylphenol	17.25	1.0	20	0	86.2	41-86	0			S
4-Chloroaniline	16.39	1.0	20	0	82	44-92	0			
4-Chlorophenyl phenyl ether	17.33	1.0	20	0	86.6	49-89	0			
4-Nitroaniline	18.78	1.0	20	0	93.9	47-98	0			
4-Nitrophenol	7.03	5.0	20	0	35.2	10-43	0			
Acenaphthene	16.6	0.10	20	0	83	42-85	0			
Acenaphthylene	16.64	0.10	20	0	83.2	42-88	0			
Acetophenone	15.59	1.0	20	0	78	39-91	0			
Anthracene	18.02	0.10	20	0	90.1	55-93	0			
Atrazine	19.55	1.0	20	0	97.8	52-100	0			
Benzaldehyde	14.94	1.0	20	0	74.7	42-110	0			
Benzo(a)anthracene	16.86	0.10	20	0	84.3	56-91	0			
Benzo(a)pyrene	17.79	0.10	20	0	89	55-96	0			
Benzo(b)fluoranthene	17.78	0.10	20	0	88.9	55-99	0			
Benzo(g,h,i)perylene	17.19	0.10	20	0	86	44-102	0			
Benzo(k)fluoranthene	17.93	0.10	20	0	89.6	57-96	0			
Bis(2-chloroethoxy)methane	16.55	1.0	20	0	82.8	39-88	0			
Bis(2-chloroethyl)ether	15.68	1.0	20	0	78.4	36-91	0			
Bis(2-ethylhexyl)phthalate	18.59	1.0	20	0	93	39-113	0			
Butyl benzyl phthalate	17.33	1.0	20	0	86.6	49-97	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683	Instrument ID SVMS10		Method: SW846 8270D					
Carbazole	18.35	1.0	20	0	91.8	59-92	0	
Chrysene	17.93	0.10	20	0	89.6	55-92	0	
Dibenzo(a,h)anthracene	17.94	0.10	20	0	89.7	47-100	0	
Dibenzofuran	16.96	1.0	20	0	84.8	44-89	0	
Diethyl phthalate	18.32	1.0	20	0	91.6	54-95	0	
Dimethyl phthalate	17.64	1.0	20	0	88.2	51-92	0	
Di-n-butyl phthalate	19.13	1.0	20	0	95.6	57-98	0	
Di-n-octyl phthalate	18.1	1.0	20	0	90.5	36-117	0	
Fluoranthene	18.93	0.10	20	0	94.6	59-93	0	S
Fluorene	17.31	0.10	20	0	86.6	47-91	0	
Hexachlorobenzene	17.61	1.0	20	0	88	53-89	0	
Hexachlorobutadiene	15.7	1.0	20	0	78.5	11-83	0	
Hexachlorocyclopentadiene	14.03	5.0	20	0	70.2	14-75	0	
Hexachloroethane	15.57	1.0	20	0	77.8	10-85	0	
Indeno(1,2,3-cd)pyrene	18.13	0.10	20	0	90.6	46-102	0	
Isophorone	15.4	5.0	20	0	77	42-90	0	
Naphthalene	16.16	0.10	20	0	80.8	26-78	0	S
Nitrobenzene	15.29	1.0	20	0	76.4	38-86	0	
N-Nitrosodi-n-propylamine	14.01	1.0	20	0	70	39-95	0	
N-Nitrosodiphenylamine	16.95	1.0	20	0	84.8	47-94	0	
Pentachlorophenol	17.52	5.0	20	0	87.6	37-94	0	
Phenanthrene	17.93	0.10	20	0	89.6	51-90	0	
Phenol	7.09	1.0	20	0	35.4	10-40	0	
Pyrene	16.17	0.10	20	0	80.8	48-98	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>42.47</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>84.9</i>	<i>27-83</i>	<i>0</i>	<i>S</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>38.75</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>77.5</i>	<i>26-79</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>25.56</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>51.1</i>	<i>13-56</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>37.52</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>75</i>	<i>43-106</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>37.3</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>74.6</i>	<i>29-80</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>16.95</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>33.9</i>	<i>10-35</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683 Instrument ID SVMS10 Method: SW846 8270D

MS				Sample ID: 22020646-02A MS		Units: µg/L		Analysis Date: 2/14/2022 04:43 PM		
Client ID:		Run ID: SVMS10_220214A		SeqNo: 8174482		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	288.6	20	400	0	72.2	40-85	0			
1,2,4,5-Tetrachlorobenzene	271.2	100	400	0	67.8	34-82	0			
2,2'-Oxybis(1-chloropropane)	213	20	400	0	53.2	33-83	0			
2,3,4,6-Tetrachlorophenol	329.8	20	400	0	82.4	43-104	0			
2,4,5-Trichlorophenol	315.8	20	400	0	79	47-84	0			
2,4,6-Trichlorophenol	305	20	400	0	76.2	45-83	0			
2,4-Dichlorophenol	301.6	20	400	0	75.4	39-84	0			
2,4-Dimethylphenol	277.8	20	400	0	69.4	34-79	0			
2,4-Dinitrophenol	361.4	100	400	0	90.4	11-117	0			
2,4-Dinitrotoluene	342.6	20	400	0	85.6	54-93	0			
2,6-Dinitrotoluene	314.8	20	400	0	78.7	51-90	0			
2-Chloronaphthalene	292.6	2.0	400	0	73.2	37-84	0			
2-Chlorophenol	271	20	400	0	67.8	38-83	0			
2-Methylnaphthalene	291.6	2.0	400	0	72.9	33-85	0			
2-Methylphenol	245.6	20	400	5	60.2	29-76	0			
2-Nitroaniline	269.6	20	400	0	67.4	45-94	0			
2-Nitrophenol	283.2	20	400	0	70.8	41-84	0			
3&4-Methylphenol	215.4	20	400	8	51.8	24-70	0			
3,3'-Dichlorobenzidine	277.6	100	400	0	69.4	39-96	0			
3-Nitroaniline	310.4	20	400	0	77.6	50-93	0			
4,6-Dinitro-2-methylphenol	360	20	400	0	90	23-116	0			
4-Bromophenyl phenyl ether	320.6	20	400	0	80.2	51-93	0			
4-Chloro-3-methylphenol	299.2	20	400	0	74.8	41-86	0			
4-Chloroaniline	259.4	20	400	0	64.8	44-92	0			
4-Chlorophenyl phenyl ether	316.4	20	400	0	79.1	49-89	0			
4-Nitroaniline	341	20	400	0	85.2	47-98	0			
4-Nitrophenol	131.4	100	400	0	32.8	10-43	0			
Acenaphthene	298.2	2.0	400	0	74.6	42-85	0			
Acenaphthylene	291.8	2.0	400	0	73	42-88	0			
Acetophenone	267.4	20	400	0	66.8	39-91	0			
Anthracene	338.6	2.0	400	0	84.6	55-93	0			
Atrazine	359	20	400	0	89.8	52-100	0			
Benzaldehyde	266	20	400	0	66.5	42-110	0			
Benzo(a)anthracene	336.4	2.0	400	0	84.1	56-91	0			
Benzo(a)pyrene	343.4	2.0	400	0	85.8	55-96	0			
Benzo(b)fluoranthene	344.4	2.0	400	0	86.1	55-99	0			
Benzo(g,h,i)perylene	378	2.0	400	0	94.5	44-102	0			
Benzo(k)fluoranthene	345.2	2.0	400	0	86.3	57-96	0			
Bis(2-chloroethoxy)methane	283.6	20	400	0	70.9	39-88	0			
Bis(2-chloroethyl)ether	270.6	20	400	0	67.6	36-91	0			
Bis(2-ethylhexyl)phthalate	351.6	20	400	0	87.9	39-113	0			
Butyl benzyl phthalate	341.8	20	400	0	85.4	49-97	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683	Instrument ID SVMS10		Method: SW846 8270D					
Carbazole	347.4	20	400	0	86.8	59-92	0	
Chrysene	355.8	2.0	400	0	89	55-92	0	
Dibenzo(a,h)anthracene	374.4	2.0	400	0	93.6	47-100	0	
Dibenzofuran	301.4	20	400	0	75.4	44-89	0	
Diethyl phthalate	336.6	20	400	0	84.2	54-95	0	
Dimethyl phthalate	317.4	20	400	0	79.4	51-92	0	
Di-n-butyl phthalate	363.2	20	400	0	90.8	57-98	0	
Di-n-octyl phthalate	347.2	20	400	0	86.8	36-117	0	
Fluoranthene	351.4	2.0	400	0	87.8	59-93	0	
Fluorene	316	2.0	400	0	79	47-91	0	
Hexachlorobenzene	330.6	20	400	0	82.6	53-89	0	
Hexachlorobutadiene	263.8	20	400	0	66	11-83	0	
Hexachlorocyclopentadiene	253	100	400	0	63.2	14-75	0	
Hexachloroethane	253.6	20	400	0	63.4	10-85	0	
Indeno(1,2,3-cd)pyrene	385.8	2.0	400	0	96.4	46-102	0	
Isophorone	258.4	100	400	0	64.6	42-90	0	
Naphthalene	274.2	2.0	400	0	68.6	26-78	0	
Nitrobenzene	263	20	400	0	65.8	38-86	0	
N-Nitrosodi-n-propylamine	240.4	20	400	0	60.1	39-95	0	
N-Nitrosodiphenylamine	329.4	20	400	0	82.4	47-94	0	
Pentachlorophenol	364.6	100	400	0	91.2	37-94	0	
Phenanthrene	335.2	2.0	400	0	83.8	51-90	0	
Phenol	119.2	20	400	0	29.8	10-40	0	
Pyrene	342.2	2.0	400	0	85.6	48-98	0	
<i>Surr: 2,4,6-Tribromophenol</i>	821.6	0	1000	0	82.2	27-83	0	
<i>Surr: 2-Fluorobiphenyl</i>	711.4	0	1000	0	71.1	26-79	0	
<i>Surr: 2-Fluorophenol</i>	407.6	0	1000	0	40.8	13-56	0	
<i>Surr: 4-Terphenyl-d14</i>	832.2	0	1000	0	83.2	43-106	0	
<i>Surr: Nitrobenzene-d5</i>	669	0	1000	0	66.9	29-80	0	
<i>Surr: Phenol-d6</i>	279	0	1000	0	27.9	10-35	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683 Instrument ID SVMS10 Method: SW846 8270D

MSD				Sample ID: 22020646-02A MSD			Units: µg/L		Analysis Date: 2/14/2022 05:11 PM		
Client ID:		Run ID: SVMS10_220214A			SeqNo: 8174483		Prep Date: 2/14/2022		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	268	20	400	0	67	40-85	288.6	7.4	30		
1,2,4,5-Tetrachlorobenzene	252.4	100	400	0	63.1	34-82	271.2	7.18	30		
2,2'-Oxybis(1-chloropropane)	191	20	400	0	47.8	33-83	213	10.9	30		
2,3,4,6-Tetrachlorophenol	317.4	20	400	0	79.4	43-104	329.8	3.83	30		
2,4,5-Trichlorophenol	296.6	20	400	0	74.2	47-84	315.8	6.27	30		
2,4,6-Trichlorophenol	275.8	20	400	0	69	45-83	305	10.1	30		
2,4-Dichlorophenol	272.2	20	400	0	68	39-84	301.6	10.2	30		
2,4-Dimethylphenol	249.6	20	400	0	62.4	34-79	277.8	10.7	30		
2,4-Dinitrophenol	336.2	100	400	0	84	11-117	361.4	7.22	30		
2,4-Dinitrotoluene	338	20	400	0	84.5	54-93	342.6	1.35	30		
2,6-Dinitrotoluene	298.6	20	400	0	74.6	51-90	314.8	5.28	30		
2-Chloronaphthalene	265.6	2.0	400	0	66.4	37-84	292.6	9.67	30		
2-Chlorophenol	249.6	20	400	0	62.4	38-83	271	8.22	30		
2-Methylnaphthalene	267.8	2.0	400	0	67	33-85	291.6	8.51	30		
2-Methylphenol	227.6	20	400	5	55.6	29-76	245.6	7.61	30		
2-Nitroaniline	251.2	20	400	0	62.8	45-94	269.6	7.07	30		
2-Nitrophenol	251	20	400	0	62.8	41-84	283.2	12.1	30		
3&4-Methylphenol	210.2	20	400	8	50.6	24-70	215.4	2.44	30		
3,3'-Dichlorobenzidine	260.2	100	400	0	65	39-96	277.6	6.47	30		
3-Nitroaniline	301.2	20	400	0	75.3	50-93	310.4	3.01	30		
4,6-Dinitro-2-methylphenol	319.4	20	400	0	79.8	23-116	360	12	30		
4-Bromophenyl phenyl ether	282.6	20	400	0	70.6	51-93	320.6	12.6	30		
4-Chloro-3-methylphenol	281.8	20	400	0	70.4	41-86	299.2	5.99	30		
4-Chloroaniline	241.8	20	400	0	60.4	44-92	259.4	7.02	30		
4-Chlorophenyl phenyl ether	301.4	20	400	0	75.4	49-89	316.4	4.86	30		
4-Nitroaniline	334.2	20	400	0	83.6	47-98	341	2.01	30		
4-Nitrophenol	135.6	100	400	0	33.9	10-43	131.4	3.15	30		
Acenaphthene	275.8	2.0	400	0	69	42-85	298.2	7.8	30		
Acenaphthylene	279.4	2.0	400	0	69.8	42-88	291.8	4.34	30		
Acetophenone	252.2	20	400	0	63	39-91	267.4	5.85	30		
Anthracene	315.4	2.0	400	0	78.8	55-93	338.6	7.09	30		
Atrazine	350.4	20	400	0	87.6	52-100	359	2.42	30		
Benzaldehyde	236.6	20	400	0	59.2	42-110	266	11.7	30		
Benzo(a)anthracene	314.4	2.0	400	0	78.6	56-91	336.4	6.76	30		
Benzo(a)pyrene	317.8	2.0	400	0	79.4	55-96	343.4	7.74	30		
Benzo(b)fluoranthene	312.4	2.0	400	0	78.1	55-99	344.4	9.74	30		
Benzo(g,h,i)perylene	337	2.0	400	0	84.2	44-102	378	11.5	30		
Benzo(k)fluoranthene	331.8	2.0	400	0	83	57-96	345.2	3.96	30		
Bis(2-chloroethoxy)methane	256	20	400	0	64	39-88	283.6	10.2	30		
Bis(2-chloroethyl)ether	238.2	20	400	0	59.6	36-91	270.6	12.7	30		
Bis(2-ethylhexyl)phthalate	322.4	20	400	0	80.6	39-113	351.6	8.66	30		
Butyl benzyl phthalate	299	20	400	0	74.8	49-97	341.8	13.4	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: 191683	Instrument ID SVMS10			Method: SW846 8270D						
Carbazole	324.4	20	400	0	81.1	59-92	347.4	6.85	30	
Chrysene	327.8	2.0	400	0	82	55-92	355.8	8.19	30	
Dibenzo(a,h)anthracene	337.6	2.0	400	0	84.4	47-100	374.4	10.3	30	
Dibenzofuran	290.2	20	400	0	72.6	44-89	301.4	3.79	30	
Diethyl phthalate	321.4	20	400	0	80.4	54-95	336.6	4.62	30	
Dimethyl phthalate	293.6	20	400	0	73.4	51-92	317.4	7.79	30	
Di-n-butyl phthalate	331.8	20	400	0	83	57-98	363.2	9.04	30	
Di-n-octyl phthalate	298.6	20	400	0	74.6	36-117	347.2	15.1	30	
Fluoranthene	340.6	2.0	400	0	85.2	59-93	351.4	3.12	30	
Fluorene	302.6	2.0	400	0	75.6	47-91	316	4.33	30	
Hexachlorobenzene	291.4	20	400	0	72.8	53-89	330.6	12.6	30	
Hexachlorobutadiene	236	20	400	0	59	11-83	263.8	11.1	30	
Hexachlorocyclopentadiene	211.8	100	400	0	53	14-75	253	17.7	30	
Hexachloroethane	232.8	20	400	0	58.2	10-85	253.6	8.55	30	
Indeno(1,2,3-cd)pyrene	355.2	2.0	400	0	88.8	46-102	385.8	8.26	30	
Isophorone	237.4	100	400	0	59.4	42-90	258.4	8.47	30	
Naphthalene	248.4	2.0	400	0	62.1	26-78	274.2	9.87	30	
Nitrobenzene	239.6	20	400	0	59.9	38-86	263	9.31	30	
N-Nitrosodi-n-propylamine	221.8	20	400	0	55.4	39-95	240.4	8.05	30	
N-Nitrosodiphenylamine	291.8	20	400	0	73	47-94	329.4	12.1	30	
Pentachlorophenol	327.8	100	400	0	82	37-94	364.6	10.6	30	
Phenanthrene	311.8	2.0	400	0	78	51-90	335.2	7.23	30	
Phenol	117.8	20	400	0	29.4	10-40	119.2	1.18	30	
Pyrene	286.4	2.0	400	0	71.6	48-98	342.2	17.8	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>728.4</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>72.8</i>	<i>27-83</i>	<i>821.6</i>	<i>12</i>	<i>40</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>646</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>64.6</i>	<i>26-79</i>	<i>711.4</i>	<i>9.64</i>	<i>40</i>	
<i>Surr: 2-Fluorophenol</i>	<i>406.6</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>40.7</i>	<i>13-56</i>	<i>407.6</i>	<i>0.246</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>686.8</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>68.7</i>	<i>43-106</i>	<i>832.2</i>	<i>19.1</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>600.8</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>60.1</i>	<i>29-80</i>	<i>669</i>	<i>10.7</i>	<i>40</i>	
<i>Surr: Phenol-d6</i>	<i>281.8</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>28.2</i>	<i>10-35</i>	<i>279</i>	<i>0.999</i>	<i>40</i>	

The following samples were analyzed in this batch:

22020744-01C	22020744-02C	22020744-05C
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338020b** Instrument ID **VMS12** Method: **SW8260C**

MBLK		Sample ID: 12V-BLKW1-220211-R338020b				Units: µg/L		Analysis Date: 2/11/2022 12:50 PM		
Client ID:		Run ID: VMS12_220211A		SeqNo: 8170342		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	0.66	1.0								J
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338020b	Instrument ID VMS12	Method: SW8260C						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	5.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>21.08</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>105</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.51</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.47</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.7</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.5</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338020b** Instrument ID **VMS12** Method: **SW8260C**

LCS				Sample ID: 12V-LCSW1-220211-R338020b		Units: µg/L		Analysis Date: 2/11/2022 12:02 PM		
Client ID:		Run ID: VMS12_220211A		SeqNo: 8170341		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.78	1.0	20	0	88.9	73-114	0			
1,1,1-Trichloroethane	20.8	1.0	20	0	104	75-130	0			
1,1,2,2-Tetrachloroethane	20.42	1.0	20	0	102	75-130	0			
1,1,2-Trichloroethane	20.64	1.0	20	0	103	75-125	0			
1,1-Dichloroethane	21.3	1.0	20	0	106	68-142	0			
1,1-Dichloroethene	20.59	1.0	20	0	103	70-145	0			
1,2,3-Trichloropropane	20.31	1.0	20	0	102	75-125	0			
1,2,4-Trichlorobenzene	20.83	1.0	20	0	104	70-135	0			
1,2,4-Trimethylbenzene	19.41	1.0	20	0	97	75-130	0			
1,2-Dibromo-3-chloropropane	19.3	1.0	20	0	96.5	60-130	0			
1,2-Dibromoethane	21.94	1.0	20	0	110	67-155	0			
1,2-Dichlorobenzene	19.58	1.0	20	0	97.9	70-130	0			
1,2-Dichloroethane	21.1	1.0	20	0	106	78-125	0			
1,2-Dichloropropane	20.73	1.0	20	0	104	75-125	0			
1,3,5-Trimethylbenzene	20.47	1.0	20	0	102	75-130	0			
1,3-Dichlorobenzene	19.28	1.0	20	0	96.4	75-130	0			
1,4-Dichlorobenzene	19.4	1.0	20	0	97	75-130	0			
2-Butanone	19.05	5.0	20	0	95.2	55-150	0			
2-Hexanone	21.21	5.0	20	0	106	60-135	0			
4-Methyl-2-pentanone	26.07	1.0	20	0	130	77-178	0			
Acetone	21.19	10	20	0	106	60-160	0			
Acrylonitrile	18.45	1.0	20	0	92.2	60-140	0			
Benzene	20.82	1.0	20	0	104	70-130	0			
Bromochloromethane	20.34	1.0	20	0	102	72-141	0			
Bromodichloromethane	20.45	1.0	20	0	102	75-125	0			
Bromoform	19.35	1.0	20	0	96.8	60-125	0			
Bromomethane	21.01	1.0	20	0	105	30-185	0			
Carbon disulfide	26.25	1.0	20	0	131	60-165	0			
Carbon tetrachloride	20.73	1.0	20	0	104	65-140	0			
Chlorobenzene	20.29	1.0	20	0	101	80-120	0			
Chloroethane	18.77	1.0	20	0	93.8	31-172	0			
Chloroform	19.99	1.0	20	0	100	66-135	0			
Chloromethane	16.93	1.0	20	0	84.6	46-148	0			
cis-1,2-Dichloroethene	20.04	1.0	20	0	100	75-134	0			
cis-1,3-Dichloropropene	21.35	1.0	20	0	107	70-130	0			
Dibromochloromethane	18.22	1.0	20	0	91.1	60-115	0			
Dibromomethane	20.98	1.0	20	0	105	79-126	0			
Dichlorodifluoromethane	20.7	1.0	20	0	104	10-180	0			
Diethyl ether	21.14	1.0	20	0	106	70-130	0			
Ethylbenzene	19.86	1.0	20	0	99.3	76-123	0			
Hexachloroethane	21.21	1.0	20	0	106	50-124	0			
Isopropylbenzene	20.22	1.0	20	0	101	80-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338020b	Instrument ID VMS12		Method: SW8260C					
m,p-Xylene	39.57	2.0	40	0	98.9	75-130	0	
Methyl iodide	18.49	5.0	20	0	92.4	60-160	0	
Methyl tert-butyl ether	20.47	1.0	20	0	102	68-129	0	
Methylene chloride	20.56	5.0	20	0	103	72-125	0	
Naphthalene	21.49	5.0	20	0	107	55-160	0	
n-Propylbenzene	20.23	1.0	20	0	101	76-116	0	
o-Xylene	19.12	1.0	20	0	95.6	76-127	0	
Styrene	19.28	1.0	20	0	96.4	79-117	0	
Tetrachloroethene	21.91	1.0	20	0	110	68-166	0	
Toluene	20.61	1.0	20	0	103	76-125	0	
trans-1,2-Dichloroethene	21.42	1.0	20	0	107	80-140	0	
trans-1,3-Dichloropropene	18.16	1.0	20	0	90.8	56-132	0	
trans-1,4-Dichloro-2-butene	19.09	2.0	20	0	95.4	46-118	0	
Trichloroethene	22.23	1.0	20	0	111	77-125	0	
Trichlorofluoromethane	19.52	1.0	20	0	97.6	60-140	0	
Vinyl chloride	20.4	1.0	20	0	102	50-136	0	
Xylenes, Total	58.69	3.0	60	0	97.8	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	19.32	0	20	0	96.6	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	21.24	0	20	0	106	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19.54	0	20	0	97.7	85-115	0	
<i>Surr: Toluene-d8</i>	19.22	0	20	0	96.1	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338020b** Instrument ID **VMS12** Method: **SW8260C**

MS				Sample ID: 22020744-05A MS		Units: µg/L		Analysis Date: 2/11/2022 09:06 PM		
Client ID: DUP-01		Run ID: VMS12_220211A		SeqNo: 8170363		Prep Date:		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1686	100	2000	0	84.3	73-114	0			
1,1,1-Trichloroethane	2128	100	2000	0	106	75-130	0			
1,1,2,2-Tetrachloroethane	2019	100	2000	0	101	75-130	0			
1,1,2-Trichloroethane	2042	100	2000	0	102	75-125	0			
1,1-Dichloroethane	2224	100	2000	0	111	68-142	0			
1,1-Dichloroethene	2257	100	2000	0	113	70-145	0			
1,2,3-Trichloropropane	1963	100	2000	0	98.2	75-125	0			
1,2,4-Trichlorobenzene	1905	100	2000	0	95.2	70-135	0			
1,2,4-Trimethylbenzene	1964	100	2000	42	96.1	75-130	0			
1,2-Dibromo-3-chloropropane	1669	100	2000	0	83.4	60-130	0			
1,2-Dibromoethane	2080	100	2000	0	104	67-155	0			
1,2-Dichlorobenzene	2051	100	2000	0	103	70-130	0			
1,2-Dichloroethane	2218	100	2000	0	111	78-125	0			
1,2-Dichloropropane	2166	100	2000	0	108	75-125	0			
1,3,5-Trimethylbenzene	2044	100	2000	0	102	75-130	0			
1,3-Dichlorobenzene	2015	100	2000	0	101	75-130	0			
1,4-Dichlorobenzene	1993	100	2000	0	99.6	75-130	0			
2-Butanone	1960	500	2000	0	98	55-150	0			
2-Hexanone	2041	500	2000	0	102	60-135	0			
4-Methyl-2-pentanone	2489	100	2000	0	124	77-178	0			
Acetone	2024	1,000	2000	38	99.3	60-160	0			
Acrylonitrile	1928	100	2000	0	96.4	60-140	0			
Benzene	2191	100	2000	0	110	70-130	0			
Bromochloromethane	2132	100	2000	0	107	72-141	0			
Bromodichloromethane	1934	100	2000	0	96.7	75-125	0			
Bromoform	1720	100	2000	0	86	60-125	0			
Bromomethane	1237	100	2000	0	61.8	30-185	0			
Carbon disulfide	2185	100	2000	0	109	60-165	0			
Carbon tetrachloride	2141	100	2000	0	107	65-140	0			
Chlorobenzene	2049	100	2000	0	102	80-120	0			
Chloroethane	2007	100	2000	0	100	31-172	0			
Chloroform	2091	100	2000	0	105	66-135	0			
Chloromethane	1862	100	2000	0	93.1	46-148	0			
cis-1,2-Dichloroethene	2115	100	2000	0	106	75-134	0			
cis-1,3-Dichloropropene	1799	100	2000	0	90	70-130	0			
Dibromochloromethane	1557	100	2000	0	77.8	60-115	0			
Dibromomethane	2081	100	2000	0	104	79-126	0			
Dichlorodifluoromethane	2443	100	2000	0	122	10-180	0			
Diethyl ether	2166	100	2000	0	108	70-130	0			
Ethylbenzene	1999	100	2000	0	100	76-123	0			
Hexachloroethane	1889	100	2000	0	94.4	50-124	0			
Isopropylbenzene	2063	100	2000	0	103	80-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338020b	Instrument ID VMS12		Method: SW8260C					
m,p-Xylene	4008	200	4000	49	99	75-130	0	
Methyl iodide	1824	500	2000	0	91.2	60-160	0	
Methyl tert-butyl ether	2140	100	2000	0	107	68-129	0	
Methylene chloride	2200	500	2000	0	110	72-125	0	
Naphthalene	1988	500	2000	65	96.2	55-160	0	
n-Propylbenzene	2046	100	2000	0	102	76-116	0	
o-Xylene	1981	100	2000	0	99	76-127	0	
Styrene	1922	100	2000	0	96.1	79-117	0	
Tetrachloroethene	2322	100	2000	0	116	68-166	0	
Toluene	2125	100	2000	0	106	76-125	0	
trans-1,2-Dichloroethene	2254	100	2000	0	113	80-140	0	
trans-1,3-Dichloropropene	1577	100	2000	0	78.8	56-132	0	
trans-1,4-Dichloro-2-butene	1530	200	2000	0	76.5	46-118	0	
Trichloroethene	2205	100	2000	0	110	77-125	0	
Trichlorofluoromethane	2220	100	2000	0	111	60-140	0	
Vinyl chloride	2137	100	2000	0	107	50-136	0	
Xylenes, Total	5989	300	6000	0	99.8	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1969	0	2000	0	98.4	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	2072	0	2000	0	104	80-110	0	
<i>Surr: Dibromofluoromethane</i>	1968	0	2000	0	98.4	85-115	0	
<i>Surr: Toluene-d8</i>	1941	0	2000	0	97	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338020b** Instrument ID **VMS12** Method: **SW8260C**

MSD				Sample ID: 22020744-05A MSD		Units: µg/L		Analysis Date: 2/11/2022 09:30 PM		
Client ID: DUP-01		Run ID: VMS12_220211A		SeqNo: 8170364		Prep Date:		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1647	100	2000	0	82.4	73-114	1686	2.34	30	
1,1,1-Trichloroethane	1983	100	2000	0	99.2	75-130	2128	7.05	30	
1,1,2,2-Tetrachloroethane	1975	100	2000	0	98.8	75-130	2019	2.2	30	
1,1,2-Trichloroethane	2006	100	2000	0	100	75-125	2042	1.78	30	
1,1-Dichloroethane	2106	100	2000	0	105	68-142	2224	5.45	30	
1,1-Dichloroethene	2082	100	2000	0	104	70-145	2257	8.07	30	
1,2,3-Trichloropropane	1793	100	2000	0	89.6	75-125	1963	9.05	30	
1,2,4-Trichlorobenzene	1845	100	2000	0	92.2	70-135	1905	3.2	30	
1,2,4-Trimethylbenzene	1907	100	2000	42	93.2	75-130	1964	2.94	30	
1,2-Dibromo-3-chloropropane	1543	100	2000	0	77.2	60-130	1669	7.85	30	
1,2-Dibromoethane	1974	100	2000	0	98.7	67-155	2080	5.23	30	
1,2-Dichlorobenzene	1877	100	2000	0	93.8	70-130	2051	8.86	30	
1,2-Dichloroethane	2084	100	2000	0	104	78-125	2218	6.23	30	
1,2-Dichloropropane	2030	100	2000	0	102	75-125	2166	6.48	30	
1,3,5-Trimethylbenzene	1957	100	2000	0	97.8	75-130	2044	4.35	30	
1,3-Dichlorobenzene	1873	100	2000	0	93.6	75-130	2015	7.3	30	
1,4-Dichlorobenzene	1835	100	2000	0	91.8	75-130	1993	8.25	30	
2-Butanone	1884	500	2000	0	94.2	55-150	1960	3.95	30	
2-Hexanone	2024	500	2000	0	101	60-135	2041	0.836	30	
4-Methyl-2-pentanone	2424	100	2000	0	121	77-178	2489	2.65	30	
Acetone	1919	1,000	2000	38	94	60-160	2024	5.33	30	
Acrylonitrile	1933	100	2000	0	96.6	60-140	1928	0.259	30	
Benzene	2109	100	2000	0	105	70-130	2191	3.81	30	
Bromochloromethane	1990	100	2000	0	99.5	72-141	2132	6.89	30	
Bromodichloromethane	1887	100	2000	0	94.4	75-125	1934	2.46	30	
Bromoform	1581	100	2000	0	79	60-125	1720	8.42	30	
Bromomethane	1357	100	2000	0	67.8	30-185	1237	9.25	30	
Carbon disulfide	2206	100	2000	0	110	60-165	2185	0.957	30	
Carbon tetrachloride	2084	100	2000	0	104	65-140	2141	2.7	30	
Chlorobenzene	1951	100	2000	0	97.6	80-120	2049	4.9	30	
Chloroethane	1897	100	2000	0	94.8	31-172	2007	5.64	30	
Chloroform	2000	100	2000	0	100	66-135	2091	4.45	30	
Chloromethane	1783	100	2000	0	89.2	46-148	1862	4.33	30	
cis-1,2-Dichloroethene	1963	100	2000	0	98.2	75-134	2115	7.45	30	
cis-1,3-Dichloropropene	1845	100	2000	0	92.2	70-130	1799	2.52	30	
Dibromochloromethane	1523	100	2000	0	76.2	60-115	1557	2.21	30	
Dibromomethane	1878	100	2000	0	93.9	79-126	2081	10.3	30	
Dichlorodifluoromethane	2317	100	2000	0	116	10-180	2443	5.29	30	
Diethyl ether	2154	100	2000	0	108	70-130	2166	0.556	30	
Ethylbenzene	1904	100	2000	0	95.2	76-123	1999	4.87	30	
Hexachloroethane	1717	100	2000	0	85.8	50-124	1889	9.54	30	
Isopropylbenzene	1961	100	2000	0	98	80-127	2063	5.07	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338020b	Instrument ID VMS12		Method: SW8260C							
m,p-Xylene	3837	200	4000	49	94.7	75-130	4008	4.36	30	
Methyl iodide	2026	500	2000	0	101	60-160	1824	10.5	30	
Methyl tert-butyl ether	2021	100	2000	0	101	68-129	2140	5.72	30	
Methylene chloride	2002	500	2000	0	100	72-125	2200	9.42	30	
Naphthalene	1922	500	2000	65	92.8	55-160	1988	3.38	30	
n-Propylbenzene	1950	100	2000	0	97.5	76-116	2046	4.8	30	
o-Xylene	1883	100	2000	0	94.2	76-127	1981	5.07	30	
Styrene	1821	100	2000	0	91	79-117	1922	5.4	30	
Tetrachloroethene	2206	100	2000	0	110	68-166	2322	5.12	30	
Toluene	2020	100	2000	0	101	76-125	2125	5.07	30	
trans-1,2-Dichloroethene	2062	100	2000	0	103	80-140	2254	8.9	30	
trans-1,3-Dichloropropene	1504	100	2000	0	75.2	56-132	1577	4.74	30	
trans-1,4-Dichloro-2-butene	1538	200	2000	0	76.9	46-118	1530	0.522	30	
Trichloroethene	2091	100	2000	0	105	77-125	2205	5.31	30	
Trichlorofluoromethane	2100	100	2000	0	105	60-140	2220	5.56	30	
Vinyl chloride	2050	100	2000	0	102	50-136	2137	4.16	30	
Xylenes, Total	5720	300	6000	0	95.3	76-127	5989	4.59	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	1987	0	2000	0	99.4	75-120	1969	0.91	30	
<i>Surr: 4-Bromofluorobenzene</i>	2086	0	2000	0	104	80-110	2072	0.673	30	
<i>Surr: Dibromofluoromethane</i>	1973	0	2000	0	98.6	85-115	1968	0.254	30	
<i>Surr: Toluene-d8</i>	1962	0	2000	0	98.1	85-110	1941	1.08	30	

The following samples were analyzed in this batch:

22020744-01A	22020744-02A	22020744-03A
22020744-04A	22020744-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338143b** Instrument ID **VMS12** Method: **SW8260C**

MBLK		Sample ID: 12V-BLKW1-220214-R338143b				Units: µg/L		Analysis Date: 2/14/2022 02:14 PM		
Client ID:		Run ID: VMS12_220214A		SeqNo: 8173342		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	0.66	1.0								J
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338143b	Instrument ID VMS12	Method: SW8260C						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	5.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.3</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.5</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.41</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.29</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.4</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338143b** Instrument ID **VMS12** Method: **SW8260C**

LCS				Sample ID: 12V-LCSW1-220214-R338143b			Units: µg/L		Analysis Date: 2/14/2022 01:27 PM		
Client ID:		Run ID: VMS12_220214A		SeqNo: 8173339		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1,2-Tetrachloroethane	17.89	1.0	20	0	89.4	73-114	0				
1,1,1-Trichloroethane	19.84	1.0	20	0	99.2	75-130	0				
1,1,2,2-Tetrachloroethane	20.18	1.0	20	0	101	75-130	0				
1,1,2-Trichloroethane	19.73	1.0	20	0	98.6	75-125	0				
1,1-Dichloroethane	20.39	1.0	20	0	102	68-142	0				
1,1-Dichloroethene	19.61	1.0	20	0	98	70-145	0				
1,2,3-Trichloropropane	18.25	1.0	20	0	91.2	75-125	0				
1,2,4-Trichlorobenzene	20.18	1.0	20	0	101	70-135	0				
1,2,4-Trimethylbenzene	18.06	1.0	20	0	90.3	75-130	0				
1,2-Dibromo-3-chloropropane	22.44	1.0	20	0	112	60-130	0				
1,2-Dibromoethane	20.63	1.0	20	0	103	67-155	0				
1,2-Dichlorobenzene	18.45	1.0	20	0	92.2	70-130	0				
1,2-Dichloroethane	20.31	1.0	20	0	102	78-125	0				
1,2-Dichloropropane	20.73	1.0	20	0	104	75-125	0				
1,3,5-Trimethylbenzene	18.54	1.0	20	0	92.7	75-130	0				
1,3-Dichlorobenzene	18.46	1.0	20	0	92.3	75-130	0				
1,4-Dichlorobenzene	19.07	1.0	20	0	95.4	75-130	0				
2-Butanone	20.17	5.0	20	0	101	55-150	0				
2-Hexanone	20.64	5.0	20	0	103	60-135	0				
4-Methyl-2-pentanone	25.84	1.0	20	0	129	77-178	0				
Acetone	21.91	10	20	0	110	60-160	0				
Acrylonitrile	19.71	1.0	20	0	98.6	60-140	0				
Benzene	19.81	1.0	20	0	99	70-130	0				
Bromochloromethane	19.31	1.0	20	0	96.6	72-141	0				
Bromodichloromethane	20.93	1.0	20	0	105	75-125	0				
Bromoform	20.78	1.0	20	0	104	60-125	0				
Bromomethane	18.1	1.0	20	0	90.5	30-185	0				
Carbon disulfide	26.64	1.0	20	0	133	60-165	0				
Carbon tetrachloride	21.66	1.0	20	0	108	65-140	0				
Chlorobenzene	18.81	1.0	20	0	94	80-120	0				
Chloroethane	17.47	1.0	20	0	87.4	31-172	0				
Chloroform	19.16	1.0	20	0	95.8	66-135	0				
Chloromethane	16.34	1.0	20	0	81.7	46-148	0				
cis-1,2-Dichloroethene	20.24	1.0	20	0	101	75-134	0				
cis-1,3-Dichloropropene	21.18	1.0	20	0	106	70-130	0				
Dibromochloromethane	19.2	1.0	20	0	96	60-115	0				
Dibromomethane	19.47	1.0	20	0	97.4	79-126	0				
Dichlorodifluoromethane	18.18	1.0	20	0	90.9	10-180	0				
Diethyl ether	20.2	1.0	20	0	101	70-130	0				
Ethylbenzene	17.9	1.0	20	0	89.5	76-123	0				
Hexachloroethane	21.61	1.0	20	0	108	50-124	0				
Isopropylbenzene	18.39	1.0	20	0	92	80-127	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338143b	Instrument ID VMS12		Method: SW8260C					
m,p-Xylene	36.66	2.0	40	0	91.6	75-130	0	
Methyl iodide	17.46	5.0	20	0	87.3	60-160	0	
Methyl tert-butyl ether	20.73	1.0	20	0	104	68-129	0	
Methylene chloride	20.31	5.0	20	0	102	72-125	0	
Naphthalene	20.36	5.0	20	0	102	55-160	0	
n-Propylbenzene	18.61	1.0	20	0	93	76-116	0	
o-Xylene	18.06	1.0	20	0	90.3	76-127	0	
Styrene	17.99	1.0	20	0	90	79-117	0	
Tetrachloroethene	20.12	1.0	20	0	101	68-166	0	
Toluene	18.84	1.0	20	0	94.2	76-125	0	
trans-1,2-Dichloroethene	20.32	1.0	20	0	102	80-140	0	
trans-1,3-Dichloropropene	18.61	1.0	20	0	93	56-132	0	
trans-1,4-Dichloro-2-butene	18.6	2.0	20	0	93	46-118	0	
Trichloroethene	20.19	1.0	20	0	101	77-125	0	
Trichlorofluoromethane	18.44	1.0	20	0	92.2	60-140	0	
Vinyl chloride	18.63	1.0	20	0	93.2	50-136	0	
Xylenes, Total	54.72	3.0	60	0	91.2	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	18.98	0	20	0	94.9	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	20.68	0	20	0	103	80-110	0	
<i>Surr: Dibromofluoromethane</i>	20.7	0	20	0	104	85-115	0	
<i>Surr: Toluene-d8</i>	19.39	0	20	0	97	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338143b** Instrument ID **VMS12** Method: **SW8260C**

MS		Sample ID: 22020885-02A MS				Units: µg/L		Analysis Date: 2/14/2022 10:30 PM		
Client ID:		Run ID: VMS12_220214A		SeqNo: 8173383		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	166.4	10	200	0	83.2	73-114	0			
1,1,1-Trichloroethane	208.8	10	200	0	104	75-130	0			
1,1,2,2-Tetrachloroethane	192.5	10	200	0	96.2	75-130	0			
1,1,2-Trichloroethane	202.5	10	200	0	101	75-125	0			
1,1-Dichloroethane	219.1	10	200	0	110	68-142	0			
1,1-Dichloroethene	227.6	10	200	0	114	70-145	0			
1,2,3-Trichloropropane	181.4	10	200	0	90.7	75-125	0			
1,2,4-Trichlorobenzene	186.4	10	200	0	93.2	70-135	0			
1,2,4-Trimethylbenzene	185.4	10	200	0	92.7	75-130	0			
1,2-Dibromo-3-chloropropane	192.4	10	200	0	96.2	60-130	0			
1,2-Dibromoethane	203.5	10	200	0	102	67-155	0			
1,2-Dichlorobenzene	179.9	10	200	0	90	70-130	0			
1,2-Dichloroethane	205.9	10	200	0	103	78-125	0			
1,2-Dichloropropane	203.9	10	200	0	102	75-125	0			
1,3,5-Trimethylbenzene	195.4	10	200	0	97.7	75-130	0			
1,3-Dichlorobenzene	182.5	10	200	0	91.2	75-130	0			
1,4-Dichlorobenzene	180.3	10	200	0	90.2	75-130	0			
2-Butanone	193.4	50	200	10.6	91.4	55-150	0			
2-Hexanone	217.4	50	200	0	109	60-135	0			
4-Methyl-2-pentanone	257.9	10	200	0	129	77-178	0			
Acetone	424.4	100	200	213.7	105	60-160	0			
Acrylonitrile	204.7	10	200	0	102	60-140	0			
Benzene	208.8	10	200	0	104	70-130	0			
Bromochloromethane	212.2	10	200	0	106	72-141	0			
Bromodichloromethane	208.3	10	200	0	104	75-125	0			
Bromoform	187.8	10	200	0	93.9	60-125	0			
Bromomethane	185.5	10	200	0	92.8	30-185	0			
Carbon disulfide	10880	10	200	11540	-330	60-165	0			SEO
Carbon tetrachloride	220	10	200	0	110	65-140	0			
Chlorobenzene	192.5	10	200	0	96.2	80-120	0			
Chloroethane	199	10	200	0	99.5	31-172	0			
Chloroform	206.4	10	200	0	103	66-135	0			
Chloromethane	172.6	10	200	0	86.3	46-148	0			
cis-1,2-Dichloroethene	206.5	10	200	0	103	75-134	0			
cis-1,3-Dichloropropene	197.5	10	200	0	98.8	70-130	0			
Dibromochloromethane	177.1	10	200	0	88.6	60-115	0			
Dibromomethane	199.7	10	200	0	99.8	79-126	0			
Dichlorodifluoromethane	215.9	10	200	0	108	10-180	0			
Diethyl ether	215.1	10	200	0	108	70-130	0			
Ethylbenzene	190	10	200	0	95	76-123	0			
Hexachloroethane	197	10	200	0	98.5	50-124	0			
Isopropylbenzene	194.4	10	200	0	97.2	80-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338143b	Instrument ID VMS12		Method: SW8260C					
m,p-Xylene	382.5	20	400	0	95.6	75-130	0	
Methyl iodide	148.8	50	200	0	74.4	60-160	0	
Methyl tert-butyl ether	212.8	10	200	0	106	68-129	0	
Methylene chloride	216.8	50	200	0	108	72-125	0	
Naphthalene	455.1	50	200	0	228	55-160	0	S
n-Propylbenzene	189.9	10	200	0	95	76-116	0	
o-Xylene	186.2	10	200	0	93.1	76-127	0	
Styrene	186.2	10	200	0	93.1	79-117	0	
Tetrachloroethene	210.2	10	200	0	105	68-166	0	
Toluene	201.9	10	200	0	101	76-125	0	
trans-1,2-Dichloroethene	217.4	10	200	0	109	80-140	0	
trans-1,3-Dichloropropene	167	10	200	0	83.5	56-132	0	
trans-1,4-Dichloro-2-butene	175.8	20	200	0	87.9	46-118	0	
Trichloroethene	216.4	10	200	0	108	77-125	0	
Trichlorofluoromethane	220.8	10	200	0	110	60-140	0	
Vinyl chloride	207.6	10	200	0	104	50-136	0	
Xylenes, Total	568.7	30	600	0	94.8	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	187.8	0	200	0	93.9	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	210.3	0	200	0	105	80-110	0	
<i>Surr: Dibromofluoromethane</i>	204.4	0	200	0	102	85-115	0	
<i>Surr: Toluene-d8</i>	193.3	0	200	0	96.6	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338143b** Instrument ID **VMS12** Method: **SW8260C**

MSD				Sample ID: 22020885-02A MSD		Units: µg/L		Analysis Date: 2/14/2022 10:53 PM		
Client ID:		Run ID: VMS12_220214A		SeqNo: 8173384		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	177	10	200	0	88.5	73-114	166.4	6.17	30	
1,1,1-Trichloroethane	221.2	10	200	0	111	75-130	208.8	5.77	30	
1,1,2,2-Tetrachloroethane	201.1	10	200	0	101	75-130	192.5	4.37	30	
1,1,2-Trichloroethane	195.2	10	200	0	97.6	75-125	202.5	3.67	30	
1,1-Dichloroethane	213.8	10	200	0	107	68-142	219.1	2.45	30	
1,1-Dichloroethene	223.7	10	200	0	112	70-145	227.6	1.73	30	
1,2,3-Trichloropropane	189.5	10	200	0	94.8	75-125	181.4	4.37	30	
1,2,4-Trichlorobenzene	191.9	10	200	0	96	70-135	186.4	2.91	30	
1,2,4-Trimethylbenzene	192	10	200	0	96	75-130	185.4	3.5	30	
1,2-Dibromo-3-chloropropane	196.6	10	200	0	98.3	60-130	192.4	2.16	30	
1,2-Dibromoethane	208.6	10	200	0	104	67-155	203.5	2.48	30	
1,2-Dichlorobenzene	186.3	10	200	0	93.2	70-130	179.9	3.5	30	
1,2-Dichloroethane	206.3	10	200	0	103	78-125	205.9	0.194	30	
1,2-Dichloropropane	210.7	10	200	0	105	75-125	203.9	3.28	30	
1,3,5-Trimethylbenzene	202	10	200	0	101	75-130	195.4	3.32	30	
1,3-Dichlorobenzene	186.5	10	200	0	93.2	75-130	182.5	2.17	30	
1,4-Dichlorobenzene	190.7	10	200	0	95.4	75-130	180.3	5.61	30	
2-Butanone	204	50	200	10.6	96.7	55-150	193.4	5.33	30	
2-Hexanone	224.6	50	200	0	112	60-135	217.4	3.26	30	
4-Methyl-2-pentanone	272.2	10	200	0	136	77-178	257.9	5.4	30	
Acetone	440.5	100	200	213.7	113	60-160	424.4	3.72	30	
Acrylonitrile	215.1	10	200	0	108	60-140	204.7	4.95	30	
Benzene	214.2	10	200	0	107	70-130	208.8	2.55	30	
Bromochloromethane	218	10	200	0	109	72-141	212.2	2.7	30	
Bromodichloromethane	213.4	10	200	0	107	75-125	208.3	2.42	30	
Bromoform	198.1	10	200	0	99	60-125	187.8	5.34	30	
Bromomethane	210.7	10	200	0	105	30-185	185.5	12.7	30	
Carbon disulfide	11230	10	200	11540	-157	60-165	10880	3.14	30	SEO
Carbon tetrachloride	233.4	10	200	0	117	65-140	220	5.91	30	
Chlorobenzene	196.1	10	200	0	98	80-120	192.5	1.85	30	
Chloroethane	197.2	10	200	0	98.6	31-172	199	0.909	30	
Chloroform	212	10	200	0	106	66-135	206.4	2.68	30	
Chloromethane	168.5	10	200	0	84.2	46-148	172.6	2.4	30	
cis-1,2-Dichloroethene	208.1	10	200	0	104	75-134	206.5	0.772	30	
cis-1,3-Dichloropropene	206.2	10	200	0	103	70-130	197.5	4.31	30	
Dibromochloromethane	186	10	200	0	93	60-115	177.1	4.9	30	
Dibromomethane	208.7	10	200	0	104	79-126	199.7	4.41	30	
Dichlorodifluoromethane	214.4	10	200	0	107	10-180	215.9	0.697	30	
Diethyl ether	224.8	10	200	0	112	70-130	215.1	4.41	30	
Ethylbenzene	192.9	10	200	0	96.4	76-123	190	1.51	30	
Hexachloroethane	207.2	10	200	0	104	50-124	197	5.05	30	
Isopropylbenzene	199.4	10	200	0	99.7	80-127	194.4	2.54	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338143b	Instrument ID VMS12			Method: SW8260C						
m,p-Xylene	386.9	20	400	0	96.7	75-130	382.5	1.14	30	
Methyl iodide	194.8	50	200	0	97.4	60-160	148.8	26.8	30	
Methyl tert-butyl ether	213.2	10	200	0	107	68-129	212.8	0.188	30	
Methylene chloride	221.1	50	200	0	111	72-125	216.8	1.96	30	
Naphthalene	255.6	50	200	0	128	55-160	455.1	56.1	30 R	
n-Propylbenzene	194.2	10	200	0	97.1	76-116	189.9	2.24	30	
o-Xylene	189.3	10	200	0	94.6	76-127	186.2	1.65	30	
Styrene	190.2	10	200	0	95.1	79-117	186.2	2.13	30	
Tetrachloroethene	221.8	10	200	0	111	68-166	210.2	5.37	30	
Toluene	202.8	10	200	0	101	76-125	201.9	0.445	30	
trans-1,2-Dichloroethene	216.8	10	200	0	108	80-140	217.4	0.276	30	
trans-1,3-Dichloropropene	180.9	10	200	0	90.4	56-132	167	7.99	30	
trans-1,4-Dichloro-2-butene	185.5	20	200	0	92.8	46-118	175.8	5.37	30	
Trichloroethene	216.1	10	200	0	108	77-125	216.4	0.139	30	
Trichlorofluoromethane	217.8	10	200	0	109	60-140	220.8	1.37	30	
Vinyl chloride	203.5	10	200	0	102	50-136	207.6	1.99	30	
Xylenes, Total	576.2	30	600	0	96	76-127	568.7	1.31	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>192</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>96</i>	<i>75-120</i>	<i>187.8</i>	<i>2.21</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>217.1</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>109</i>	<i>80-110</i>	<i>210.3</i>	<i>3.18</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>202.7</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>204.4</i>	<i>0.835</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>195.7</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>85-110</i>	<i>193.3</i>	<i>1.23</i>	<i>30</i>	

The following samples were analyzed in this batch:

22020744-03A	22020744-04A	22020744-05A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338276a** Instrument ID **VMS8** Method: **SW8260C**

MBLK		Sample ID: 8V-BLKW1-220216-R338276a				Units: µg/L		Analysis Date: 2/16/2022 12:17 PM		
Client ID:		Run ID: VMS8_220216A		SeqNo: 8180115		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a	Instrument ID VMS8	Method: SW8260C						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	5.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	20.28	0	20	0	101	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	18.67	0	20	0	93.4	80-110	0	
<i>Surr: Dibromofluoromethane</i>	20.45	0	20	0	102	85-115	0	
<i>Surr: Toluene-d8</i>	20.14	0	20	0	101	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: **R338276a** Instrument ID **VMS8** Method: **SW8260C**

LCS		Sample ID: 8V-LCSW1-220216-R338276a				Units: µg/L		Analysis Date: 2/16/2022 11:21 AM		
Client ID:		Run ID: VMS8_220216A			SeqNo: 8180113		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.33	1.0	20	0	96.6	73-114	0			
1,1,1-Trichloroethane	19.24	1.0	20	0	96.2	75-130	0			
1,1,2,2-Tetrachloroethane	20.82	1.0	20	0	104	75-130	0			
1,1,2-Trichloroethane	20.7	1.0	20	0	104	75-125	0			
1,1-Dichloroethane	18.75	1.0	20	0	93.8	68-142	0			
1,1-Dichloroethene	18.58	1.0	20	0	92.9	70-145	0			
1,2,3-Trichloropropane	19.46	1.0	20	0	97.3	75-125	0			
1,2,4-Trichlorobenzene	17.27	1.0	20	0	86.4	70-135	0			
1,2,4-Trimethylbenzene	20.08	1.0	20	0	100	75-130	0			
1,2-Dibromo-3-chloropropane	18.71	1.0	20	0	93.6	60-130	0			
1,2-Dibromoethane	20.47	1.0	20	0	102	67-155	0			
1,2-Dichlorobenzene	20.39	1.0	20	0	102	70-130	0			
1,2-Dichloroethane	20.83	1.0	20	0	104	78-125	0			
1,2-Dichloropropane	20.25	1.0	20	0	101	75-125	0			
1,3,5-Trimethylbenzene	20.89	1.0	20	0	104	75-130	0			
1,3-Dichlorobenzene	19.99	1.0	20	0	100	75-130	0			
1,4-Dichlorobenzene	20.01	1.0	20	0	100	75-130	0			
2-Butanone	20.09	5.0	20	0	100	55-150	0			
2-Hexanone	20.66	5.0	20	0	103	60-135	0			
4-Methyl-2-pentanone	20.03	1.0	20	0	100	77-178	0			
Acetone	23.11	10	20	0	116	60-160	0			
Acrylonitrile	18.38	1.0	20	0	91.9	60-140	0			
Benzene	19.82	1.0	20	0	99.1	70-130	0			
Bromochloromethane	19.92	1.0	20	0	99.6	72-141	0			
Bromodichloromethane	20.83	1.0	20	0	104	75-125	0			
Bromoform	19.19	1.0	20	0	96	60-125	0			
Bromomethane	19.84	1.0	20	0	99.2	30-185	0			
Carbon disulfide	20.3	1.0	20	0	102	60-165	0			
Carbon tetrachloride	19.08	1.0	20	0	95.4	65-140	0			
Chlorobenzene	19.55	1.0	20	0	97.8	80-120	0			
Chloroethane	14.47	1.0	20	0	72.4	31-172	0			
Chloroform	18.64	1.0	20	0	93.2	66-135	0			
Chloromethane	11.98	1.0	20	0	59.9	46-148	0			
cis-1,2-Dichloroethene	19.21	1.0	20	0	96	75-134	0			
cis-1,3-Dichloropropene	18.41	1.0	20	0	92	70-130	0			
Dibromochloromethane	18.97	1.0	20	0	94.8	60-115	0			
Dibromomethane	20.25	1.0	20	0	101	79-126	0			
Dichlorodifluoromethane	13.36	1.0	20	0	66.8	10-180	0			
Diethyl ether	20.12	1.0	20	0	101	70-130	0			
Ethylbenzene	20.37	1.0	20	0	102	76-123	0			
Hexachloroethane	18.78	1.0	20	0	93.9	50-124	0			
Isopropylbenzene	20.79	1.0	20	0	104	80-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
Work Order: 22020744
Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a	Instrument ID VMS8		Method: SW8260C					
m,p-Xylene	41.48	2.0	40	0	104	75-130	0	
Methyl iodide	26.38	5.0	20	0	132	60-160	0	
Methyl tert-butyl ether	22.48	1.0	20	0	112	68-129	0	
Methylene chloride	19.47	5.0	20	0	97.4	72-125	0	
Naphthalene	16.25	5.0	20	0	81.2	55-160	0	
n-Propylbenzene	20.88	1.0	20	0	104	76-116	0	
o-Xylene	19.88	1.0	20	0	99.4	76-127	0	
Styrene	21.25	1.0	20	0	106	79-117	0	
Tetrachloroethene	20.2	1.0	20	0	101	68-166	0	
Toluene	19.1	1.0	20	0	95.5	76-125	0	
trans-1,2-Dichloroethene	18.91	1.0	20	0	94.6	80-140	0	
trans-1,3-Dichloropropene	18.97	1.0	20	0	94.8	56-132	0	
trans-1,4-Dichloro-2-butene	17.61	2.0	20	0	88	46-118	0	
Trichloroethene	19.41	1.0	20	0	97	77-125	0	
Trichlorofluoromethane	15.85	1.0	20	0	79.2	60-140	0	
Vinyl chloride	15.24	1.0	20	0	76.2	50-136	0	
Xylenes, Total	61.36	3.0	60	0	102	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.3</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.83</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.91</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.6</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a Instrument ID VMS8 Method: SW8260C

MS				Sample ID: 22020744-04A MS		Units: µg/L		Analysis Date: 2/16/2022 07:38 PM		
Client ID: TW-73		Run ID: VMS8_220216A		SeqNo: 8180139		Prep Date:		DF: 25		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	542.8	25	500	0	109	73-114	0			
1,1,1-Trichloroethane	568.2	25	500	0	114	75-130	0			
1,1,2,2-Tetrachloroethane	554.8	25	500	0	111	75-130	0			
1,1,2-Trichloroethane	568.8	25	500	0	114	75-125	0			
1,1-Dichloroethane	548.2	25	500	0	110	68-142	0			
1,1-Dichloroethene	544.8	25	500	0	109	70-145	0			
1,2,3-Trichloropropane	534.5	25	500	0	107	75-125	0			
1,2,4-Trichlorobenzene	406	25	500	0	81.2	70-135	0			
1,2,4-Trimethylbenzene	1388	25	500	576	162	75-130	0			S
1,2-Dibromo-3-chloropropane	547.5	25	500	0	110	60-130	0			
1,2-Dibromoethane	574.2	25	500	0	115	67-155	0			
1,2-Dichlorobenzene	532.2	25	500	0	106	70-130	0			
1,2-Dichloroethane	544.8	25	500	0	109	78-125	0			
1,2-Dichloropropane	545.2	25	500	0	109	75-125	0			
1,3,5-Trimethylbenzene	782	25	500	167.5	123	75-130	0			
1,3-Dichlorobenzene	517.8	25	500	0	104	75-130	0			
1,4-Dichlorobenzene	517	25	500	0	103	75-130	0			
2-Butanone	565.5	120	500	0	113	55-150	0			
2-Hexanone	538.8	120	500	0	108	60-135	0			
4-Methyl-2-pentanone	551	25	500	0	110	77-178	0			
Acetone	676.2	250	500	15.25	132	60-160	0			
Acrylonitrile	522.2	25	500	0	104	60-140	0			
Benzene	550	25	500	0	110	70-130	0			
Bromochloromethane	565	25	500	0	113	72-141	0			
Bromodichloromethane	555.8	25	500	0	111	75-125	0			
Bromoform	505	25	500	0	101	60-125	0			
Bromomethane	2508	25	500	0	502	30-185	0			SE
Carbon disulfide	656.5	25	500	32.75	125	60-165	0			
Carbon tetrachloride	546.2	25	500	0	109	65-140	0			
Chlorobenzene	548	25	500	0	110	80-120	0			
Chloroethane	363.5	25	500	0	72.7	31-172	0			
Chloroform	523	25	500	0	105	66-135	0			
Chloromethane	352.8	25	500	0	70.6	46-148	0			
cis-1,2-Dichloroethene	509.8	25	500	0	102	75-134	0			
cis-1,3-Dichloropropene	455.8	25	500	0	91.2	70-130	0			
Dibromochloromethane	522.8	25	500	0	105	60-115	0			
Dibromomethane	545.2	25	500	0	109	79-126	0			
Dichlorodifluoromethane	346.5	25	500	0	69.3	10-180	0			
Diethyl ether	540.8	25	500	0	108	70-130	0			
Ethylbenzene	600.5	25	500	21.75	116	76-123	0			
Hexachloroethane	694	25	500	0	139	50-124	0			S
Isopropylbenzene	541.8	25	500	0	108	80-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a	Instrument ID VMS8		Method: SW8260C					
m,p-Xylene	1308	50	1000	118.5	119	75-130	0	
Methyl iodide	901.8	120	500	0	180	60-160	0	S
Methyl tert-butyl ether	552.5	25	500	0	110	68-129	0	
Methylene chloride	536.5	120	500	0	107	72-125	0	
Naphthalene	1622	120	500	689.5	186	55-160	0	S
n-Propylbenzene	544.5	25	500	31	103	76-116	0	
o-Xylene	688.8	25	500	92	119	76-127	0	
Styrene	570.8	25	500	0	114	79-117	0	
Tetrachloroethene	565.2	25	500	0	113	68-166	0	
Toluene	554.8	25	500	0	111	76-125	0	
trans-1,2-Dichloroethene	550.2	25	500	0	110	80-140	0	
trans-1,3-Dichloropropene	487.5	25	500	0	97.5	56-132	0	
trans-1,4-Dichloro-2-butene	408.2	50	500	0	81.6	46-118	0	
Trichloroethene	545.8	25	500	0	109	77-125	0	
Trichlorofluoromethane	505.8	25	500	0	101	60-140	0	
Vinyl chloride	458.8	25	500	0	91.8	50-136	0	
Xylenes, Total	1997	75	1500	210.5	119	76-127	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	498.2	0	500	0	99.6	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	485.2	0	500	0	97	80-110	0	
<i>Surr: Dibromofluoromethane</i>	509.5	0	500	0	102	85-115	0	
<i>Surr: Toluene-d8</i>	509.2	0	500	0	102	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a Instrument ID VMS8 Method: SW8260C

MSD		Sample ID: 22020744-04A MSD				Units: µg/L		Analysis Date: 2/16/2022 07:57 PM		
Client ID: TW-73		Run ID: VMS8_220216A			SeqNo: 8180140		Prep Date:		DF: 25	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	566.5	25	500	0	113	73-114	542.8	4.28	30	
1,1,1-Trichloroethane	570.8	25	500	0	114	75-130	568.2	0.439	30	
1,1,2,2-Tetrachloroethane	575.8	25	500	0	115	75-130	554.8	3.72	30	
1,1,2-Trichloroethane	589.5	25	500	0	118	75-125	568.8	3.58	30	
1,1-Dichloroethane	552	25	500	0	110	68-142	548.2	0.682	30	
1,1-Dichloroethene	562.5	25	500	0	112	70-145	544.8	3.21	30	
1,2,3-Trichloropropane	560.8	25	500	0	112	75-125	534.5	4.79	30	
1,2,4-Trichlorobenzene	408	25	500	0	81.6	70-135	406	0.491	30	
1,2,4-Trimethylbenzene	1359	25	500	576	157	75-130	1388	2.13	30	S
1,2-Dibromo-3-chloropropane	541	25	500	0	108	60-130	547.5	1.19	30	
1,2-Dibromoethane	584.8	25	500	0	117	67-155	574.2	1.81	30	
1,2-Dichlorobenzene	525.8	25	500	0	105	70-130	532.2	1.23	30	
1,2-Dichloroethane	562.8	25	500	0	113	78-125	544.8	3.25	30	
1,2-Dichloropropane	556.5	25	500	0	111	75-125	545.2	2.04	30	
1,3,5-Trimethylbenzene	785.8	25	500	167.5	124	75-130	782	0.478	30	
1,3-Dichlorobenzene	507	25	500	0	101	75-130	517.8	2.1	30	
1,4-Dichlorobenzene	508.2	25	500	0	102	75-130	517	1.71	30	
2-Butanone	573	120	500	0	115	55-150	565.5	1.32	30	
2-Hexanone	564.2	120	500	0	113	60-135	538.8	4.62	30	
4-Methyl-2-pentanone	507	25	500	0	101	77-178	551	8.32	30	
Acetone	704	250	500	15.25	138	60-160	676.2	4.02	30	
Acrylonitrile	515.8	25	500	0	103	60-140	522.2	1.25	30	
Benzene	569.5	25	500	0	114	70-130	550	3.48	30	
Bromochloromethane	552.5	25	500	0	110	72-141	565	2.24	30	
Bromodichloromethane	553.8	25	500	0	111	75-125	555.8	0.361	30	
Bromoform	513.5	25	500	0	103	60-125	505	1.67	30	
Bromomethane	2455	25	500	0	491	30-185	2508	2.12	30	S
Carbon disulfide	594.5	25	500	32.75	112	60-165	656.5	9.91	30	
Carbon tetrachloride	572	25	500	0	114	65-140	546.2	4.61	30	
Chlorobenzene	558	25	500	0	112	80-120	548	1.81	30	
Chloroethane	380.2	25	500	0	76	31-172	363.5	4.5	30	
Chloroform	534.5	25	500	0	107	66-135	523	2.17	30	
Chloromethane	338.5	25	500	0	67.7	46-148	352.8	4.12	30	
cis-1,2-Dichloroethene	529.2	25	500	0	106	75-134	509.8	3.75	30	
cis-1,3-Dichloropropene	464	25	500	0	92.8	70-130	455.8	1.79	30	
Dibromochloromethane	539.8	25	500	0	108	60-115	522.8	3.2	30	
Dibromomethane	538.8	25	500	0	108	79-126	545.2	1.2	30	
Dichlorodifluoromethane	345.5	25	500	0	69.1	10-180	346.5	0.289	30	
Diethyl ether	539.2	25	500	0	108	70-130	540.8	0.278	30	
Ethylbenzene	617.5	25	500	21.75	119	76-123	600.5	2.79	30	
Hexachloroethane	656.5	25	500	0	131	50-124	694	5.55	30	S
Isopropylbenzene	571	25	500	0	114	80-127	541.8	5.26	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: DLZ
 Work Order: 22020744
 Project: DDOT Coolidge (1942-6994-50)

QC BATCH REPORT

Batch ID: R338276a	Instrument ID VMS8			Method: SW8260C						
m,p-Xylene	1342	50	1000	118.5	122	75-130	1308	2.53	30	
Methyl iodide	895.5	120	500	0	179	60-160	901.8	0.696	30	S
Methyl tert-butyl ether	561.5	25	500	0	112	68-129	552.5	1.62	30	
Methylene chloride	538.5	120	500	0	108	72-125	536.5	0.372	30	
Naphthalene	1527	120	500	689.5	168	55-160	1622	6.02	30	S
n-Propylbenzene	561	25	500	31	106	76-116	544.5	2.99	30	
o-Xylene	685	25	500	92	119	76-127	688.8	0.546	30	
Styrene	573.8	25	500	0	115	79-117	570.8	0.524	30	
Tetrachloroethene	560.5	25	500	0	112	68-166	565.2	0.844	30	
Toluene	580.2	25	500	0	116	76-125	554.8	4.49	30	
trans-1,2-Dichloroethene	549.5	25	500	0	110	80-140	550.2	0.136	30	
trans-1,3-Dichloropropene	499.8	25	500	0	100	56-132	487.5	2.48	30	
trans-1,4-Dichloro-2-butene	418	50	500	0	83.6	46-118	408.2	2.36	30	
Trichloroethene	558	25	500	0	112	77-125	545.8	2.22	30	
Trichlorofluoromethane	510.5	25	500	0	102	60-140	505.8	0.935	30	
Vinyl chloride	460.2	25	500	0	92	50-136	458.8	0.326	30	
Xylenes, Total	2027	75	1500	210.5	121	76-127	1997	1.48	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	496.5	0	500	0	99.3	75-120	498.2	0.352	30	
<i>Surr: 4-Bromofluorobenzene</i>	493	0	500	0	98.6	80-110	485.2	1.58	30	
<i>Surr: Dibromofluoromethane</i>	490.8	0	500	0	98.2	85-115	509.5	3.75	30	
<i>Surr: Toluene-d8</i>	511.2	0	500	0	102	85-110	509.2	0.392	30	

The following samples were analyzed in this batch:

22020744-04A



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Chain of Custody Form

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Page 1 of 1

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

COC ID: 055119

ALS Project Manager: _____ ALS Work Order #: 22020744

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>DDOT Coolidge</u>	A	<u>VOCs</u>										
Work Order		Project Number	<u>1942-6994-50</u>	B	<u>SUOCs</u>										
Company Name	<u>DLZ Michigan, Inc.</u>	Bill To Company		C	<u>MI 10 Metals</u>										
Send Report To	<u>Dan McNeely</u>	Invoice Attn	<u>edonner@dlz.com</u>	D											
Address	<u>1425 Keystone Ave</u>	Address		E											
				F											
City/State/Zip	<u>Lansing MI 48911</u>	City/State/Zip		G											
Phone	<u>517 393 6800</u>	Phone		H											
Fax		Fax		I											
e-Mail Address	<u>dmcneely@dlz.com</u>	e-Mail Address		J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>TW-62</u>	<u>2-9-22</u>	<u>1210</u>	<u>GW</u>	<u>1,2,8</u>	<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>								
2	<u>TW-80</u>	<u>2-9-22</u>	<u>1507</u>	<u>GW</u>	<u>1,2,8</u>	<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>								
3	<u>TW-67</u>	<u>2-9-22</u>	<u>1600</u>	<u>GW</u>	<u>1,2</u>	<u>4</u>	<u>X</u>		<u>X</u>								
4	<u>TW-73</u>	<u>2-9-22</u>	<u>1630</u>	<u>GW</u>	<u>1,2</u>	<u>4</u>	<u>X</u>		<u>X</u>								
5	<u>DUP-01</u>	<u>2-9-22</u>	<u>1200</u>	<u>GW</u>	<u>1,2,8</u>	<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>								
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Dan McNeely</u>		Shipment Method		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by:	Date: <u>2-9-22</u>	Time: <u>1730</u>	Received by:		Notes:						
Relinquished by:	Date: <u>2/9/22</u>	Time: <u>2300</u>	Received by (Laboratory): <u>DFS</u>		Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)				
Logged by (Laboratory): <u>DFS</u>	Date: <u>2/10/22</u>	Time: <u>1515</u>	Checked by (Laboratory):		<u>IR1</u>	<u>4.2C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<u>PH31</u>	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV			
							<input type="checkbox"/> Level IV SW846/CLP				
							<input type="checkbox"/> Other				

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name: DLZ - LANSING

Date/Time Received: 09-Feb-22 23:00

Work Order: 22020744

Received by: DS

Checklist completed by Diane Shaw 10-Feb-22
eSignature Date

Reviewed by: Julian Johnson 10-Feb-22
eSignature Date

Matrices: Groundwater

Carrier name: Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="4.2/4.2 c"/>		<input type="text" value="IR1"/>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="2/10/2022 3:29:55 PM"/>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

REPORT OF ASBESTOS AND UNIVERSAL WASTE SURVEY

**DETROIT DEPARTMENT OF TRANSPORTATION
FORMER COOLIDGE MAINTENANCE FACILITY
14044 SHAFER ROAD
DETROIT, MICHIGAN**

PREPARED FOR:

DETROIT BUILDING AUTHORITY

PREPARED BY:

**DLZ MICHIGAN
607 SHELBY ST. SUITE 650
DETROIT, MI 48226**

DLZ NO.: 1942-6994-50



October 22, 2019

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1.0 INTRODUCTION

DLZ Michigan, Inc. (DLZ) was retained by the Detroit Department of Transportation (DDOT) of Detroit, Michigan to conduct a survey for asbestos containing materials (ACM) and Universal Waste materials at the Coolidge Bus Terminal Facility (Subject Facility) located at 14044 Shaefer Road, Detroit, Michigan.

The Subject Facility consists of the Bus Garage Building, Terminal Building, Terminal Dispatch Building, Boiler House Building, Fare Box Building and a Trailer, Guard House Building, Small Brick Building, and Tower Control Building. There is also a tunnel that connects the Bus Garage Building to the Boiler House Building and a tunnel that connects the Bus Garage Building to the Terminal Building. The building locations are depicted on **Figure 1, Appendix A**.

2.0 ASBESTOS SURVEY

2.1 Purpose

These structures are subject to the facility requirements of the Federal National Emission Standard for Hazardous Air Pollutants (NESHAP) asbestos regulations contained in the Code of Federal Regulations, Title 40, Part 61, Subpart M, (40 CFR 61, Subpart M). The NESHAP regulations require an accredited asbestos inspector to thoroughly inspect the affected facility or the part of the facility where renovation and/or demolition will occur for the presence of asbestos. This includes Category I non-friable and Category II non-friable asbestos containing materials. All regulated asbestos containing materials (RACM) are required to be removed prior to any demolition and/or renovation operations that may result in the disturbance of these materials. The purpose of this Report of Asbestos Inspection is to document the location, quantity and condition of all asbestos containing materials (ACM) that were identified during the asbestos inspection so these materials can be properly handled prior to and during the demolition or renovation.

2.2 Methodology

DLZ conducted the asbestos survey from September 5, 2019 through September 20, 2019 using a State of Michigan Accredited Asbestos Building Inspector. DLZ's inspector, Mr. Dirk Anderson, has a State of Michigan Accreditation Number A11605, expiring Nov 18, 2019.

DLZ's asbestos survey methodology included the following:

- A. Inspection of each structure for potentially friable and non-friable ACM, delineation of the homogeneous areas (materials that are uniform in color and texture), and the procurement of bulk samples from suspect materials.
- B. Sample procurement was performed according to the standards of Federal NESHAP asbestos regulations.

- C. Documentation of the inspection process using the Asbestos field notes that indicate the sample identification number, the sample location, the sample description and other comments regarding the suspect ACM bulk sample. Photographs of the suspect asbestos containing materials are contained in the Photo Log enclosed in **Appendix 3**.
- D. Completion of a chain-of-custody form documenting the sample transport process, and the submittal of the samples to Environmental Testing Laboratories, Inc. in Romulus, Michigan for asbestos analysis.
- E. Analysis of potential ACM containing bulk samples was performed by Environmental Testing Laboratories, Inc. a National Voluntary Laboratory Accreditation Program (NVLAP) approved laboratory with NVLAP Accreditation number 201028-0. Bulk sample analysis was conducted by the Polarized Light Microscopy (PLM) methodology in accordance with the U.S. EPA Method 600/R-93/116. If a positive sample was identified, no additional samples from that homogenous area were analyzed.
- F. Bulk sample results are compared to the NESHAP criteria as defined in 40 CFR 61, Subpart M. NESHAP defines an asbestos containing material as any material that contains greater than 1% asbestos.
- G. A summary of the limitations of the Asbestos Inspection Report are contained in **Appendix 2**.

2.3 PLM Bulk Sample Results

Bus Garage Building and Site

DLZ performed an asbestos survey of the Bus Garage Building and exterior areas of site. Forty-two (42) suspect asbestos containing homogeneous areas were identified. A total of eighty-nine (89) bulk samples were collected and seventy-seven (77) of the bulk samples were analyzed. The sample locations are depicted on **Figures 2-1 to 2-5, Appendix A**. Descriptions of the suspect homogeneous areas and the bulk sample analytical results are summarized in **Table 1, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 5**.

Based on the laboratory results, ten (10) of the homogeneous areas were identified as asbestos containing materials. In addition, five (5) of the suspect homogenous areas were assumed to be asbestos containing materials and were not sampled. A summary of the asbestos containing materials is listed below:

- HA -7 - Sample 07a Paper in electric box
- HA-10 – Sample 10a Mud joints on piping
- HA-11 - Sample 11a Thermal system insulation (TSI), mag-block, on piping
- HA-15 – Sample 15a TSI (mag block) on piping
- HA-18 – Sample 18a Paneling mastic
- HA-20 – Sample 20a Window glazing

- HA-21 – Sample 21a Paper in electric box
- HA-27 – Sample 27a Sealant on conduit
- HA-30 – Sample 30a Window caulk
- HA-34 – Sample 38a Window glazing
- HA-44 (Assumed Positive) TSI (air-cell)
- HA-45 (Assumed Positive) TSI (air cell)
- HA-46 (Assumed Positive) TSI (air cell)
- HA-47 (Assumed Positive) Cloth insulation
- HA-48 (Assumed Positive) Transite roofing/siding material

Terminal Building

DLZ performed an asbestos survey of the Terminal Building. Thirty (30) suspect asbestos containing homogeneous areas were identified. A total of fifty-eight (58) bulk samples were collected and fifty-two (52) of the bulk samples were analyzed. The sample locations are depicted on **Figures 3-1 and 3-2 Appendix A**. Descriptions of the suspect homogeneous areas and the bulk sample analytical results are summarized in **Table 2, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 6**.

Based on the laboratory results, eight (8) of the homogeneous areas were identified as asbestos containing materials. In addition, three (3) of the suspect homogenous areas were assumed to be asbestos containing materials and were not sampled. A summary of the asbestos containing materials is listed below:

- HA-1 – Sample 01a Door and window caulk
- HA-2 – Sample 02a White caulk
- HA-3 – Sample 03a White window glazing
- HA-4 – Sample 04a Gray window glazing
- HA-5 – Sample 05a Red caulk
- HA-6 – Sample 06a Painted caulk
- HA-9 – Sample 09a 9" x 9" floor tile
- HA-23 – Sample 23a 9" x 9" floor tile
- HA-28 (Assumed Positive) TSI (air-cell)
- HA-29 (Assumed Positive) TSI (air cell)
- HA-30 (Assumed Positive) Paper insulation in electrical box

Terminal Dispatch Building

DLZ performed an asbestos survey of the Terminal Dispatch Building. Five (5) suspect asbestos containing homogeneous areas were identified. A total of ten (10) bulk samples were collected and analyzed. The sample locations are depicted on **Figure 5, Appendix A**. Descriptions of the suspect homogeneous areas and the bulk sample analytical results are summarized in **Table 3, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 7**.

Based on the laboratory results, none of the homogeneous areas were identified as asbestos containing materials.

Boiler House Building

DLZ performed an asbestos survey of the Boiler House Building. Seven (7) suspect asbestos containing homogeneous areas were identified. A total of twelve (12) bulk sample were collected and ten (10) of the bulk samples were analyzed. The sample locations are depicted on **Figure 4, Appendix A**. A description of the suspect homogeneous area and the bulk sample analytical result is summarized in **Table 4, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 8**.

Based on the laboratory results, two of the homogeneous areas were identified as asbestos containing materials. In addition, one of the suspect homogenous areas was assumed to be an asbestos containing material and was not sampled. A summary of the asbestos containing materials is listed below:

- HA-2 – Sample 02a White window glazing
- HA 3 – Sample 03a Window glazing
- HA-7 (Assumed Positive) Transite panels

Fare Box Building and Trailer

DLZ was unable to access the interior of the Fare Box Building due to the exterior doors being welded shut. DLZ did perform an asbestos survey of the exterior of the Fare Box Building and the adjacent trailer, which resulted in the identification of three (3) suspect asbestos containing homogeneous areas. The sample locations are depicted on **Figure 5, Appendix A**. A total of six (6) bulk samples were collected and five (5) of the bulk samples were analyzed. A description of the suspect homogeneous area and the bulk sample analytical result is summarized in **Table 5, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 5**

Based on the laboratory results, one homogeneous area was identified as an asbestos containing material and is listed below:

- HA-40 – Sample 40a Window glazing

Guard House Building

DLZ performed an asbestos survey of the Guard House Building. Five (5) suspect asbestos containing homogeneous areas were identified. A total of eleven (11) bulk samples were collected and ten (10) of the bulk samples were analyzed. The sample locations are depicted on **Figure 5, Appendix A**. Descriptions of the suspect homogeneous areas and the bulk sample analytical results are summarized in **Table 6, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 9**.

Based on the laboratory results, one homogenous area was identified as an asbestos containing material and is listed below.

- HA-4 – Sample 04a Exterior caulk

Small Brick Building

DLZ performed an asbestos Survey of the Small Brick Building. Two (2) suspect asbestos containing homogeneous areas were identified. A total of four (4) bulk samples were collected and three (3) of the bulk samples were analyzed. The sample locations are depicted on **Figure 5, Appendix A**. Descriptions of the suspect homogeneous areas and the bulk sample analytical results are summarized in **Table 7, Appendix 4**. A copy of the laboratory analytical results is enclosed in **Appendix 5**.

Based on the laboratory results, one homogeneous area was identified as an asbestos containing material and is listed below.

- HA-39 – Sample 38a Window glazing

Tower Control Building

DLZ performed an asbestos survey of the Tower Control Building. No suspect asbestos containing homogeneous areas were identified.

Tunnels

DLZ performed an asbestos survey of the tunnel connecting the Bus Garage Building to the Terminal Building, which resulted in the identification of one suspect homogenous area. The suspect homogenous area was assumed to be an asbestos containing material and was not sampled. The Tunnel locations are depicted on **Figure 5, Appendix A**.

The tunnel from the Bus Garage Building leading to the Boiler House Building was completely submerged and not accessible for inspection. DLZ did note asbestos containing TSI on the piping in the Bus Garage Building that lead into the tunnel. Based on this observation, DLZ assumes that the piping in the tunnel contains asbestos containing TSI.

Descriptions of the suspect homogeneous areas are summarized in **Table 8, Appendix 5** The asbestos containing material is listed as follows:

- HA-1 (Assumed Positive) TSI (air cell)
- HA -2 (Assumed Positive) TSI (air cell)

3.0 UNIVERSAL WASTE SURVEY

DLZ staff performed a visual inspection of the Subject Facility Buildings, as part of the asbestos survey, to identify readily observable materials that may be classified as a Universal Waste, per R 299.9228 of Part 111 Hazardous Waste Administrative Rules of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (ACT 451) and to identify other potential environmentally sensitive materials that may require special handling and disposal. As part of this visual inspection, DLZ did not collect or analyze any

waste characterization samples from the Universal Waste materials or other potential environmentally sensitive materials. A summary, per building, of the materials identified that may be classified as a Universal Waste and/or be considered potentially environmentally sensitive is enclosed in **Appendix 10** and photographs are contained in the Photo Log enclosed in **Appendix 3**. This summary does not include liquids, chemicals, gases or other products that may be located within the process piping inside and outside of the building.

As part of this survey, a lead -based paint inspection was not performed. However, based on the age of the buildings, it will be assumed that any paint on the buildings should contain lead.

5.0 CONCLUSIONS AND RECOMMENDATIONS

DLZ performed an asbestos and universal waste survey of the DDOT Coolidge Bus Terminal facility. This survey resulted in the identification of thirty (34) asbestos containing homogenous areas and numerous materials that could be classified as a Universal Waste and/or be considered a potentially environmentally sensitive material that could require special handling and disposal. Based on the findings of this survey, DLZ recommends the following:

- Prior to any renovation and/or demolition activities occurring at the Far Box Building, an asbestos inspection of the interior of the building is required to be performed by a State of Michigan Accredited Asbestos Inspector.
- Prior to any renovation and/or demolition activities occurring in the tunnel connecting the Bus Garage Building to the Boiler House Building, the tunnel shall be dewatered to allow for access. Based on the potential for asbestos to be present in the tunnel on the piping, the water in the tunnel shall be considered an asbestos containing waste and shall be properly handled and disposed of in accordance with federal, state, and local regulations. Upon completion of the dewatering of the tunnel, an asbestos inspection of the tunnel shall be performed by a State of Michigan Accredited Asbestos Inspector.
- All asbestos containing material that were identified will require abatement prior to the start of any renovation and/or demolition activities that may have the potential to disturb these materials. The abatement shall be performed by a Michigan Accredited Asbestos Abatement Contractor using Michigan Accredited Asbestos Abatement Workers. The removal and disposal of the regulated asbestos containing materials shall be performed in accordance with all federal, state, and local requirements.
- Prior to any renovation and/or demolition activities occurring at the Subject Facility building, the materials classified as Universal Waste are required to be removed and properly packaged and disposed of in accordance with the requirements set forth in R 299.9228 of Part 111 Hazardous Waste Administrative Rules of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (ACT 451)

- Prior to any renovation and/or demolition activities occurring at the Subject Facility buildings, the materials identified as potentially environmentally sensitive shall be properly characterized and then handled and disposed of in accordance with all federal, state, and local regulations.

6.0 SIGNATURE OF ASBESTOS INSPECTOR

The LEO Accredited Asbestos Inspector responsible for this report is noted as follows:



Dirk D. L. Anderson A.A.I.
Asbestos Inspector, LEO # A11605

SJW

APPENDIX 1

FIGURES