



NO FURTHER ACTION ADDENDUM REPORT

FOR

**FORMER DTE GREENWOOD OIL TERMINAL
298 GRATIOT BOULEVARD
MARYSVILLE, MICHIGAN**

**PRESENTED TO:
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY**

NOVEMBER 1, 2017

**PREPARED ON BEHALF OF:
CDC MARYSVILLE, LLC**

Prepared By:
ENVIROLOGIC TECHNOLOGIES, INC.
2960 Interstate Parkway
Kalamazoo, Michigan 49048
(269) 342-1100



Request for DEQ Review of No Further Action (NFA) Addendum Report

This form is required for submittal of a request for the DEQ to review a No Further Action Report, under Section 20114d, Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Section A: NFA Category (Check all that apply:)

Residential, unrestricted <input type="checkbox"/>	Restricted (limited) Residential <input type="checkbox"/>
	Restricted (limited) Non-Residential <input checked="" type="checkbox"/>
	Restricted (limited) Site Specific <input type="checkbox"/>
Does this NFA address the entire facility (as defined in Sec 20101 of Part 201): <input checked="" type="checkbox"/>	

Section B: Facility Information:

Facility Name: Greenwood Oil Terminal	County: St. Clair
Street Address of Property: 298 Gratiot Boulevard	City/Village/Township: Marysville
City: Marysville State: MI Zip: 48025	Town: 6N Range: 17E Section: 29/28 Quarter: SW/SE Quarter-Quarter: NE/NW
Property Tax ID (include all applicable IDs): 74-03-029-2005-010	Decimal Degrees Latitude: 42.931250 Decimal Degrees Longitude: -82.462245
Status of submitter relative to the property (check all that apply): Former Current Prospective	Reference point for latitude and longitude: Center of site <input checked="" type="checkbox"/> Main/front door <input type="checkbox"/> Front gate/main entrance <input type="checkbox"/> Other <input type="checkbox"/>
Owner <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Collection method: Survey <input type="checkbox"/> GPS <input checked="" type="checkbox"/> Interpolation <input type="checkbox"/>
Operator <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Section C: Submitter Information:

Entity/person requesting review: CDC Marysville, LLC	
Contact Person (name and title): Mike Roberts, Principle	
Submitter's Address: 1650 Des Peres Rd, Suite 303	
City: St. Louis	State: MO Zip: 63052
Telephone: (314) 835-2878	E-Mail: APeetz@eltransfer.com
Relationship of Contact Person to the Submitter: Member	
Owner Name, if different from Submitter:	Company:
Owner Address:	City: State: Zip:
Telephone:	E-Mail:

Section D: Facility/Property Subject to (Check all that apply):

Facility regulated under Part 201, other source, or source unknown	<input checked="" type="checkbox"/>
Part 201 Site ID, if known: 74000339	
Leaking Underground Storage Tank regulated pursuant to Part 213 Part 211/213.	<input type="checkbox"/>
Facility ID, if known:	
Oil or gas production and development regulated pursuant to Part 615 or 625	<input type="checkbox"/>
Licensed landfill regulated pursuant to Part 115	<input type="checkbox"/>
Licensed hazardous waste treatment, storage, or disposal facility regulated pursuant to Part 111	<input type="checkbox"/>
Consent Agreement or other legal agreement with the MDEQ	<input type="checkbox"/>

Section E: Are/were the following present at the facility (Check all that apply):

	Current	Previously	Unknown
Free product/Non aqueous phase liquids (NAPL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil contamination above residential criteria	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil contamination above non-residential criteria	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil aesthetic impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater contamination above residential criteria	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater contamination above non-residential criteria	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater contamination above the Acute Inhalation Screening Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater aesthetic impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil Gas contamination above residential vapor intrusion (vi) screening levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil Gas contamination above non-residential VIscreening levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conditions immediately dangerous to life or health (IDLH)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire & Explosion hazards related to releases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contamination existing in drinking water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Imminent threat to drinking water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact to surface water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact to surface water sediments above screening levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: The following questions assist MDEQ in evaluating the No Further Action Report:**Have other plans or reports, BEAs, DDCCs, NFAs, etc. been submitted for this facility?**

Facility Name, if different than this submittal: -

Date and Name of most recent submittal: - November 21, 2016 – Supplemental Information for the Greenwood Oil Terminal

Response Activities or Remedial Action that have been Implemented (Check all that apply):

	Current	Previously
Excavation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Physical or Engineered Exposure Barrier	<input type="checkbox"/>	<input type="checkbox"/>
Active Soil Remediation System	<input type="checkbox"/>	<input type="checkbox"/>
In-situ Soil Remediation	<input type="checkbox"/>	<input type="checkbox"/>
Active Groundwater Remediation System	<input type="checkbox"/>	<input type="checkbox"/>
In-situ Groundwater Remediation	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater Monitored Natural Attenuation	<input type="checkbox"/>	<input type="checkbox"/>
Containment, Physical or Hydraulic	<input type="checkbox"/>	<input type="checkbox"/>
Vapor Intrusion Barrier	<input type="checkbox"/>	<input type="checkbox"/>
Vapor Intrusion Remediation System	<input type="checkbox"/>	<input type="checkbox"/>
Other, Specify:		

Remedial Action Relies on (Check all that apply):

Mixing Zone	<input type="checkbox"/>
Part 201 Section 20118(5) and (6)	<input type="checkbox"/>
Site-Specific Criteria Section 20120b	<input checked="" type="checkbox"/>
MIOSHA demonstration Section 20120a(19)	<input type="checkbox"/>

Post Closure Plan and Components:

Post Closure Plan Required?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Plan Includes:		
Permanent Markers	<input type="checkbox"/>	
Restrictive Covenant	<input checked="" type="checkbox"/>	
Institutional Controls	<input type="checkbox"/>	

Post Closure Agreement and Components:

Post Closure Agreement Required?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Agreement Includes:		
FAM	<input type="checkbox"/>	
FAM, de minimus	<input type="checkbox"/>	
Waiver of Permanent Marker	<input type="checkbox"/>	

Section G: Attachments (Required):

	Yes
Environmental Professional's Affidavit is attached:	<input checked="" type="checkbox"/>
Environmental Professional's Certificate of Insurance is attached:	<input checked="" type="checkbox"/>
Submitter's Affidavit is attached:	<input checked="" type="checkbox"/>

Section H: Environmental Professional Signature:

With my signature below, I certify that this plan and all related materials are true, accurate, and complete to the best of my knowledge and belief.

Signature: David B. Warwick Date: November 8, 2017

Printed Name: David B. Warwick

Company: Envirologic Technologies, Inc.

Mailing Address: 2960 Interstate Parkway City: Kalamazoo State: MI Zip: 49048

Telephone: 269-342-1100 E-mail: dwarwick@envirologic.com

Section I: Submitter Signature:

With my signature below, I certify that this plan and all related materials are true, accurate, and complete to the best of my knowledge and belief and I am legally authorized to sign for the submitter.

Signature: Mike Roberts Date: 11/3/17
(Person legally authorized to bind the legal entity)

Printed Name: Mike Roberts

Title and Relationship of signatory to submitter: Member

Address: 1650 Des Peres Rd, Ste 303 City: St. Louis State: MO Zip: 63131

Telephone: (314) 835-2878 E-Mail: APeetz@eltransfer.com

This form and the no further action report should be submitted to the DEQ Remediation and Redevelopment Division District Office unless the response activity is related to a facility that is regulated by another DEQ Division. A district map is located at www.michigan.gov/deqrrd. If regulated by another division, contact should be made with that division for information on where to submit the form and report.

NFA Table of Contents
Currently under development

Affidavit of Person Submitting a No Further Action Addendum Report

Required pursuant to Section 20114d(5) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NEREPA), 1994 PA 451, as amended, to be submitted by a person submitting a No Further action (NFA) report to Michigan DEQ. All terms found in this document which are defined in Part 3, Definitions, and Part 201, Environmental Remediation, of NREPA shall have the same meaning as in the statute.

State of Missouri

County of Saint Louis

1. I, Mike Roberts, am authorized to submit this affidavit on behalf of CDC Marysville, LLC under MCL 324.20114d(5).
2. A No Further Action (NFA) Addendum report dated November 1, 2017 is being submitted for the facility referred to as the Greenwood Oil Terminal located at 298 Gratiot Boulevard, Marysville, Michigan 48040 (the "Facility").
3. The purpose of the NFA Addendum report is to detail the completion of remedial action at the Facility.
4. The remedial action at the Facility described in the NFA Addendum report was conducted in compliance with all applicable local, state, and federal laws and regulations.
5. I affirm to the best of my knowledge and belief that the NFA Addendum report prepared for this Facility, and all information, data, documents and reports relied upon for this NFA Addendum report, are true, accurate and complete.

Signature of Affiant

Sworn to before me and subscribed in my presence this 7 day of November, 2017.

Notary Public



REBECCA LYDON
My Commission Expires
November 1, 2021
St. Louis County
Commission #13540330

EQP4031 (REV. 11/7/12)

Environmental Consultant Affidavit for No Further Action Addendum Report

Required pursuant to Section 20114d(5) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NEREPA), 1994 PA 451, as amended, for the Environmental Consultant who prepared a No Further Action (NFA) report that is being submitted to Michigan DEQ. All terms found in this document which are defined in Part 3, Definitions, and Part 201, Environmental Remediation, of NREPA shall have the same meaning as in the statute.

State of Michigan
County of Kalamazoo

1. I, David B. Warwick, am an Environmental Consultant whose title is, Vice President-Hydrogeologist, and I am employed by Envirollogic Technologies, Inc.
2. I meet the professional qualifications set forth in MCL 324.20114e(2) of NREPA. A description of my qualifications, including education and work experience, is attached.
3. I have prepared a No Further Action (NFA) Addendum report dated November 1, 2017 for the facility referred to as the Greenwood Oil Terminal located at 298 Gratiot Boulevard, Marysville, Michigan 48040 (the "Facility"). Parcel identification number: 74-03-029-2005-010. I am submitting this affidavit pursuant to MCL 324.20114d(5).

Parcel legal description: BEG S 2D 23M 56S E 1250' FROM NE SEC COR, TH S 2D 23M 56S E 1434.03', TH S 88D 32M 23S W 691.57', TH N 1D 35M 46S W 1199.17', TH N 2D 7M 18S W 223.69', TH N 87D 36M 14S E 673.60' TO BEG SECTION 29 T6N R17E 22.35A

4. I prepared the NFA Addendum Report at the request of CDC Marysville, LLC, located at 1650 Des Peres Road Suite 303, St. Louis, Missouri 63052.
5. The remedial action at the Facility described in the NFA Addendum report was conducted in compliance with Part 201 of the NREPA, and all other applicable local, state, and federal laws and regulations.
6. I affirm to the best of my knowledge and belief that the NFA Addendum report prepared for this Facility, and all information, data, documents and reports relied upon for this NFA Addendum report, are true, accurate and complete.

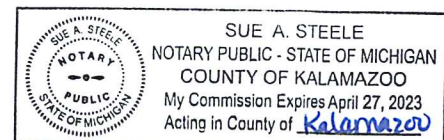


Signature of Affiant

Sworn to before me and subscribed in my presence this 6th day of November, 2017.



Notary Public



EDUCATION

Master of Science, Geology
Western Michigan University
Emphasis on Hydrogeology

Bachelor of Science, Geology
Eastern Kentucky University

CONTINUING EDUCATION:

- OSHA 40-Hour HAZWOPER Course & Annual 8-Hour Refresher
- First Aid/CPR Training
- Underground Storage Tank Seminar; Western Michigan University
- Wetlands: Constraints and Developments; Western Michigan University
- ASTM Risk-Based Corrective Action (RCBA) Training
- National Water Well Association Course: Corrective Action for Containing and Controlling Groundwater Contamination
- Battelle Conference on the Remediation of Recalcitrant Compounds
- USEPA Quality Assurance Project Plan Development, Review, and Implementation Seminars
- Certified Land Science Technologies, Inc., Vapor Barrier Inspector
- ITRC Light Non-aqueous Phase Liquid Training
- AIPG Technical Training Workshop 2014, 2015, 2016, 2017 (presenter)

PROFESSIONAL AFFILIATIONS:

- National Ground Water Association
- Michigan Association of Environmental Professionals
- Air and Waste Management Association
- American Institute of Professional Geologists

Envirollogic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, MI 49048

Phone: 269-342-1100

Fax: 269-342-4945

Email: dwarwick@envirollogic.com

AREAS OF EXPERTISE:

Environmental investigations of industrial and commercial facilities including: contaminant investigations, risk assessments, risk-based corrective actions, and underground storage tank activities; due diligence/environmental site assessments; solid waste characterizations; general environmental permitting, including air quality permits; and environmental compliance audits

EXPERIENCE:

- 31 years experience
- Remedial investigations and Risk Assessment protocols applied to varying contaminant situations including organics, metals, and PCBs; design and implement groundwater monitoring systems at industrial facilities and solid waste disposal areas to monitor site activities and/or investigate alleged contamination
- Part 111 and 115 experience – waste characterization and disposal, RCRA Part B Permit closures, and closure assessments
- Hydrogeologic characterization of prospective landfill sites, groundwater monitoring at landfills
- Part 201: Designs and implements remedial investigations, feasibility studies, Response Activity Plans, Remedial Action Plans, and Generic and Restricted residential and non-residential No Further Action designations
- Vapor Intrusion assessments and mitigation system design and operation
- Incremental Sampling Method (ISM) work plan design and implementation
- Quality Management Plan (QMP) development and implementation
- Quality Assurance Project Plan (QAPP) development and implementation to support US EPA funded Brownfield Assessment Grants
- Part 213: Leaking UST investigations, remedial activities, compliance report preparation
- Environmental site assessments and due diligence activities to establish property conditions for real estate transactions
- Design and implementation of sampling programs for determining characteristics of solid waste for appropriate waste designation
- Preparation of groundwater/surface water discharge permit applications, air use permit applications, monitoring reports, and continued compliance reports (PIPP, SPCC)
- Environmental compliance audits to establish compliance status of industrial/commercial facilities with environmental regulations
- Statistical analyses of groundwater data and environmental quality data
- State of Michigan Air Use Permits to install developmental and compliance recordkeeping; application and implementation of Rule 290 recordkeeping to industrial and remediation processes



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Walton Agency 2929 Spring Arbor Rd. P.O. Box 3029 Jackson MI 49204		CONTACT NAME: Kathy Corden PHONE (A/C, No. Ext): (517) 787-2600 FAX (A/C, No): (517) 787-3857 E-MAIL ADDRESS: kcorden@waltonagency.com	
INSURED Envirollogic Technologies Inc. West Michigan Drilling 2960 Interstate Parkway Kalamazoo MI 49048		INSURER(S) AFFORDING COVERAGE INSURER A: Colony Insurance Company INSURER B: Cincinnati Insurance Company INSURER C: Safety National Casualty Corp INSURER D: INSURER E: INSURER F:	
		NAIC # 39993 10677 15105	

COVERAGES**CERTIFICATE NUMBER:** CL173214414**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			PACE303127	3/1/2017	3/1/2018	EACH OCCURRENCE	\$ 5,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person)	\$ 5,000
	<input checked="" type="checkbox"/> Contractors Pollution						PERSONAL & ADV INJURY	\$ 5,000,000
	<input checked="" type="checkbox"/> Professional						GENERAL AGGREGATE	\$ 5,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	\$ 5,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC							\$
B	AUTOMOBILE LIABILITY			EBA0182258	3/1/2017	3/1/2018	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident)	\$
	<input checked="" type="checkbox"/> HIRED AUTOS	<input checked="" type="checkbox"/> NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident)	\$
							PD BU	\$ 1,000
A	<input checked="" type="checkbox"/> UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR		EXC303128	3/1/2017	3/1/2018	EACH OCCURRENCE	\$ 2,000,000
	<input type="checkbox"/> EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE					AGGREGATE	\$ 2,000,000
	<input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000							\$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			ENVIR2C	5/1/2017	5/1/2018	<input checked="" type="checkbox"/> WC STATUTORY LIMITS	OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	N/A				E.L. EACH ACCIDENT	\$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

Evidence of Coverage

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Eric Walton/KCORD

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APPENDICES

APPENDIX A: *Letter of Supplemental Information*

APPENDIX B: *Figures*

Figure 1: Site Plan with Areas of Interest, Soil Borings, and Monitoring Well Locations

Figure 2: NFA Area

APPENDIX C: *Boring Logs*

APPENDIX D: *Analytical Data Tables*

Table 1A: VOCs (Soil Samples)

Table 1B: PNAs (Soil Samples)

Table 1C: Metals (Soil Samples)

Table 2A: VOCs (Groundwater Samples)

Table 2B: PNAs (Groundwater Samples)

Table 2C: Metals (Groundwater/Pore Water Samples)

APPENDIX E: *Analytical Reports*

APPENDIX F: *Restrictive Covenant*

Non-Residential Use Restriction (Filed: October 10, 2017)

*Direct Contact Exposure Notification, NAPL Body, and Vapor Intrusion Exposure
Restriction (October 10, 2017)*

ACRONYMS

AOI—Area of Interest
AST—Aboveground Storage Tank
BGL—Below Ground Level
CDC—Commercial Development Company
DTE—Detroit Edison
GOT—Greenwood Oil Terminal
GSI—Groundwater Surface Water Interface
GSIP—Groundwater Surface Water Interface Protection
MDEQ—Michigan Department of Environmental Quality
NAPL—Non-Aqueous Phase Liquid
NFA—No Further Action
PID—Photo Ionization Detector
PNA—Polynuclear Aromatic Hydrocarbon
RIASL—Recommended Interim Action Screening Level
RRD—Remediation and Redevelopment Division
SOP—Standard Operating Procedure
TMB—Trimethylbenzene
USEPA—United States Environmental Protection Agency
VOC—Volatile Organic Compound



NO FURTHER ACTION ADDENDUM REPORT

FORMER DTE GREENWOOD OIL TERMINAL 298 GRATIOT BOULEVARD MARYSVILLE, MICHIGAN

1.0 EXECUTIVE SUMMARY

This report serves as an addendum to a No Further Action (NFA) Report (submitted to the MDEQ on May 27, 2016) that summarized investigation activities and remedial action at the former DTE Greenwood Oil Terminal (GOT). The following report is in response to a Notice of Insufficient Information that was issued by the MDEQ on October 31, 2016. This addendum has been prepared by Envirologic on behalf of CDC Marysville LLC.

The Notice of Insufficient Information identified the following items as deficiencies in the NFA Report:

- Item 1: Additional detail regarding typical locations, practices, and methods of receipt, storage, and distribution of oil when the Oil Terminal was actively operating.
- Item 2: Discussion and additional characterization of areas with apparent data gaps, specifically in the vicinity of the largest storage tank, the pipeline, and known fill areas.
- Item 3: Further discussion of the existing storage tanks, pipeline, and associated piping, including known releases and the current condition and contents of those structures.
- Item 4: An adequate institutional control instrument that identifies areas of known contamination, specifies restricted activities in those areas, and provides the MDEQ with the authority to enforce the institutional control.

The following narrative addresses each item in a manner that will allow for a comprehensive review of the data at the GOT.



2.0 PAST SITE USE AND CURRENT CONDITIONS (ITEMS 1 & 3)

Additional information regarding the distribution and storage of fuel oil at the GOT was provided in a Letter of Supplemental Information, which was electronically submitted to the MDEQ on November 21, 2016 (Appendix A). The supplemental letter also provided documentation on the current conditions of the distribution and storage features at the GOT, in addition to a discussion on the lack of a known release at the facility.

3.0 ADDITIONAL SITE CHARACTERIZATION (ITEM 2)

3.1 Field Activities (2017)

To address potential data gaps that were identified in the Notice of Insufficient Information, six additional soil borings were advanced to characterize conditions associated with the distribution and storage of fuel oil via an underground pipeline and aboveground storage tanks (ASTs), as well as fill material in these areas.

In September 2017, Envirologic advanced three soil borings along a section of the underground pipeline (J-99 through J-101) and three soil borings near the ASTs (J-102 through J-104). Borings were advanced by direct push technologies via a Geoprobe®. A pore water sample (PW-8) was collected along the east bank of Bunce Creek, downgradient of the pipeline. Soil boring and pore water sample locations are presented in Figure 1 (Appendix B). The six soil boring logs can be found in Appendix C.

During boring advancement, soil cuttings were characterized by a geologist and scanned with a photo-ionization detector (PID) for organic vapors. Three soil samples were collected from 2 to 3 feet below ground level (bgl) around the ASTs to further characterize fill material and evaluate for the presence of petroleum compounds associated with the storage of fuel oil. Three soil samples were collected from 7 to 13 feet bgl (above, at, and below the suspected depth of the pipeline) along the southern section of the underground pipeline to further characterize fill material and evaluate for the presence of petroleum compounds associated with the transport of fuel oil.

A gaining-losing stream evaluation was conducted at three locations along a section of the east bank of Bunce Creek, downgradient of the pipeline. Following Section 4.2 of the USEPA SOP #EH-03 procedure for sediment pore water sampling, groundwater flux readings were collected using

a PushPoint sampler. Where the creek was determined to be gaining, a pore water sample was collected via the PushPoint sampler (PW-8).

Soil and porewater samples were submitted to Fibertec Laboratories in Holt, Michigan. Soil samples were analyzed for Michigan 10 metals (USEPA Method 200.8/6020A), volatile organic compounds (VOCs, USEPA Method 8260), and semi-volatile organic compounds (PNAs, USEPA Method 8270). The pore water sample was analyzed for mercury (USEPA Method 7470A). Analytical results are summarized in Tables 1 and 2 (Appendix D), and the laboratory analytical reports are provided in Appendix E.

3.2 Results of Additional Site Investigation – Underground Pipeline

No PID responses or visible indication of fuel oil were observed in borings along the pipeline. No VOCs were detected in the three soil samples collected along the underground pipeline. No Tier 1 generic Non-Residential Criteria exceedances were identified for PNAs. As further discussed in Section 4.2.2 of the NFA Report for the GOT, soil data was compared to the MDEQ *Michigan Background Soil Survey* document (2015), which provides a detailed interpretation of background metal concentrations in soil from the Huron-Erie glacial lobe in southeast Michigan. The concentration of mercury exceeded the generic Groundwater Surface Water Interface Protection (GSIP) criterion in one soil sample (J-100@7'-9'). No other criteria exceedances for metals were identified in the soil samples.

Mercury was not detected in a pore water sample (PW-8), collected directly downgradient of J-100. Due to a lack of contaminant conveyance into Bunce Creek at concentrations in excess of GSI criteria, current site conditions indicate that there is no unacceptable exposure risk via the GSI pathway associated with fill material along the pipeline.

3.3 Results of Additional Site Investigation – ASTs

No PID responses or visible indication of fuel oil were observed in borings near the ASTs. No VOCs were detected in the three soil samples collected around the ASTs. No Tier 1 generic Non-Residential Criteria exceedances were identified for PNAs. The concentration of zinc exceeded the generic GSIP criterion in one soil sample (J-104@2'-3'). No other criteria exceedances for metals were identified in the soil samples.

Zinc was not detected in previous groundwater samples that were collected from the network of monitoring wells that are located between J-104 and Bunce Creek. Due to a lack of contaminant

conveyance into Bunce Creek at concentrations in excess of GSI criteria, current site conditions indicate that there is no unacceptable exposure risk via the GSI pathway associated with fill material near the ASTs.

4.0 INSTITUTIONAL CONTROL (ITEM 4)

4.1 Volatilization to Indoor Air Pathway

Contaminant concentrations were compared to Non-Residential Vapor Intrusion Screening Levels in the NFA Report for the GOT (MDEQ-RRD *Guidance Document for the Vapor Intrusion Pathway*, May, 2013). As the Non-Residential Vapor Intrusion Screening Levels have since been rescinded, soil and groundwater contaminant concentrations were compared to Non-Residential Recommended Interim Action Screening Levels (RIASLs; MDEQ, August 2017) to re-evaluate the volatilization to indoor air pathway and assess whether provisions in a Restrictive Covenant were necessary to address the pathway.

As detailed in Tables 1 and 2 (Appendix D), generic Non-Residential RIASL exceedances were identified in soil and/or groundwater samples collected in AOI-J (2) and AOI-J (3). Four VOCs—including cis-1,2-dichloroethene, ethylbenzene, trichloroethene, and 1,3,5-TMB—were detected in excess of Non-Residential RIASLs in two saturated soil samples (J-15A@5'-6' and J-MW76@16'). Cis-1,2-dichloroethene and trichloroethene were also detected marginally above Non-Residential RIASLs in a groundwater sample from J-MW30.

Buildings at the GOT were previously used for storage and as a control center for former operations at the facility. There are no occupied buildings at the GOT. There are no buildings within 100 feet of a RIASL exceedance. The extent of RIASL exceedances has been adequately defined both in soil and groundwater.

Based on current site conditions, the data indicates that there is no unacceptable exposure via the volatilization to indoor air pathway. To account for potential future development at the subject site, the volatilization to indoor air pathway will be managed with a restriction requiring that additional steps be taken to prevent an unacceptable inhalation exposure within a new structure (see Section 4.2). Further steps including soil gas sampling or engineering controls (installation and operation of a sub-slab depressurization system or a vapor barrier) may be appropriate to allow for the construction of a new structure within the notified area.

4.2 Restrictive Covenant

Prior to site assessment and remedial action at the GOT, a Restrictive Covenant was filed with the property deed on May 30, 2014, that restricted groundwater use across the entire parcel. Two additional Restrictive Covenants were registered with the property deed on October 10, 2017. The additional Restrictive Covenants limit the entire subject parcel to non-residential use, provides notification of a non-aqueous phase liquid (NAPL) body, and details a direct contact exposure notification and vapor intrusion exposure restriction for portions of the subject site. A copy of the two Restrictive Covenants filed in 2017 is provided in Appendix F.

5.0 REQUEST FOR NO FURTHER ACTION

Based upon current site conditions, there are no impacted off-site receptors, nor are there any complete exposure pathways associated with the historical storage of coal and oil at the GOT. Where arsenic exceeded the Non-Residential Direct Contact criterion in shallow soil, excavation adequately removed the impacted soil. Contaminants that remain at the GOT in excess of Non-Residential Direct Contact criteria and Non-Residential RIASLs are at depth and have been addressed through a Restrictive Covenant.

Institutional controls have been implemented to prevent unacceptable exposure for the drinking water, direct contact, particulate soil inhalation, and volatilization to indoor air pathways. Based on the results of site characterization, excavation activities, and restrictions that have been applied, the GOT can be closed under Part 201 (Appendix B, Figure 2).



APPENDIX A

LETTER OF SUPPLEMENTAL INFORMATION



November 21, 2016

Ms. Emily Bertolini
Remediation and Redevelopment Division
Michigan Department of Environmental Quality
SE Michigan District Office
27700 Donald Court
Warren, Michigan 48092-2793

Re: Supplemental Information for the Former Greenwood Oil Terminal, 298 Gratiot Boulevard, Marysville, Michigan

Dear Ms. Bertolini:

As requested by the MDEQ during a conference call on October 24, 2016, the following letter provides supplemental information in support of the Greenwood Oil Terminal (GOT) No Further Action (NFA) Report, submitted to the MDEQ on May 27, 2016. This letter offers further detail regarding historical operations at the GOT, configuration and status of the petroleum product distribution and storage system, and rationale for sample locations during the site assessment.

Site History and Current Status of Distribution and Storage System

The subject property was used as a storage yard for coal, clinkers, and slag from the time the Marysville Power Plant (across Gratiot Boulevard) began operation in 1922 until 1978, when the oil terminal was constructed. Historical aerial photos from 1937 through 1980, presented in Attachment A, depict the distribution of coal storage at the GOT. Based upon the aeriels, coal and byproduct material were stored across the majority of the site.

After the facility was converted to an oil terminal in 1978, tankers would unload #4 fuel oil and #6 fuel oil along a wharf on the St. Clair River (located north of the Marysville Power Plant). The product was pumped via an underground pipeline network to the GOT, where it was stored in three above ground storage tanks (ASTs). A layout of the GOT is provided in Figure 1 (Attachment B). Registration records with the Michigan Department of State Police – State Fire Marshal, from March 1994, provided the following information regarding the three ASTs:

- AST #1 has a capacity of 2,700,600 gallons and was used to meter #6 fuel oil and #4 fuel oil.
- AST #2 has a capacity of 676,200 gallons and was used to store #4 fuel oil.
- AST #3 has a capacity of 16,909,200 gallons and was used to store #6 fuel oil.

Ms. Emily Bertolini
Michigan Department of Environmental Quality
November 21, 2016
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In an AST inspection report from November 12, 2012 and conducted on behalf of DTE Energy (former facility owner), the level of cathodic protection for all three ASTs was found to be acceptable. According to an inspection report by the Department of Licensing and Regulatory Affairs (DLARA) on July 18, 2016, all three ASTs have been emptied and cleaned since 2001. The report also concluded that piping runs have been disconnected and purged. Supporting documentation regarding registration and inspections of the ASTs are provided in Attachment C.

Configuration and Operation of Product Distribution and Storage System

A diagram depicting the product distribution and storage system at the GOT is provided in Figure 1 (Attachment B). Photos of select portions of the GOT are provided in Attachment D. Petroleum product was transported to the GOT via two 10-inch underground pipes carrying #6 fuel oil and two 4-inch underground pipes carrying #4 fuel oil. The #6 fuel oil was directed to AST #1 to gauge the amount of product arriving at the facility. The #6 fuel oil was then stored in AST #3 until it was transported to the Greenwood Power Plant, approximately 10 miles to the north-northwest. The #4 fuel oil was stored in AST #2. The #4 fuel oil was used to pack the pipeline during periods of inactivity at the GOT, afterwards the #4 fuel oil was pumped to the Greenwood Power Plant. Starting in the mid-1990's, the facility was only used to store and transport #4 fuel oil. During this time, the #4 fuel oil was only stored in AST #1 and AST #2, while AST #3 sat idle.

The fuel oil passed through a series of heaters and pumps prior to discharging into the ASTs. The heaters and pumps all have concrete secondary containment spill pads. Storm water in each spill pad and within the AST secondary containment area was conveyed, via underground piping, to an oil-water separator that discharges into Bunce Creek. Discharge is conducted under a NPDES permit. As described in Figure 1, sections of piping that runs between the heaters/pumps and ASTs is above ground. A truck unloading station for #4 fuel oil is located within the southern-most spill pad with secondary containment. Two concrete equipment pads with secondary containment, situated near the pumps, were used to drain and clean the pipeline pig. Each equipment pad drains into a 5,000-gallon holding underground storage tank (UST). The original 5,000-gallon single-walled USTs were replaced with 5,000-gallon double-walled USTs in 1989. Each holding UST was emptied on an as-needed basis by a licensed liquid industrial waste hauler.



Sampling Rational

As further detailed in the GOT NFA Report, 96 soil borings were advanced across the facility between 2012 and 2015. Soils from each boring were scanned for petroleum vapors with a photoionization device (PID). A total of 273 soil samples were collected across the facility, both from the surficial sand layer (approximately 10 to 15 feet thick) and underlying clay layer. A total of 43 groundwater samples were also collected from temporary and permanent monitoring wells across the facility. Numerous soil and groundwater samples were analyzed for a combination of volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PNAs). The following provides rational for characterization at the GOT, specifically the product distribution and storage system as well as known fill areas associated with the storage of coal and byproduct material:

Holding USTs/Equipment Pads

- Soil borings J-11, J-15A, J-59-J-62, and J-75 were advanced to characterize conditions around the two 5,000-gallon holding USTs and associated equipment pads. Temporary monitoring wells were set at J-11 and J-15A while a permanent monitoring well was set at J-MW61.
- No PID responses were identified in the seven borings.
- Soil and groundwater samples were collected and analyzed for PNAs and VOCs.
- No PNAs or VOCs were detected around the northern holding UST. Phenanthrene and 1,3,5-TMB exceeded GSIP criterion in a soil sample near the southern holding UST (J-15A@5'-6'). No petroleum-related contaminants exceed applicable criteria in nearby/downgradient monitoring wells by the holding USTs and equipment pads.
- No impact associated with the northern holding UST was observed. Minor soil impact (GSIP exceedances in J-15A@5'-6') was observed near the southern holding UST; however, impact may be associated with the truck unloading station (see following section).



Aboveground Product Piping (Includes Truck Unloading Station and Product Pumps/Heaters) and Oil-Water Separator System

- Soil borings J-12, J-13, J-15 (B and C), J-16, J-70, J-72 through J-MW78 were advanced to characterize conditions along the section of aboveground product piping, including the truck unloading station and product pumps/heaters, along with the oil-water separator system. Temporary monitoring wells were set at J-15 (B and C) while permanent monitoring wells were set at J-MW74 and J-MW76 through J-MW78.
- A minor PID response (2.1) was identified at a depth of 12 feet in J-MW76. A sheen was observed in J-15 and J-MW76.
- Soil and groundwater samples were collected and analyzed for PNAs and VOCs.
- Five contaminants exceed a combination of GSIP, Direct Contact, and Vapor Intrusion criterion and screening levels in soil samples from J-MW76. No petroleum-related contaminants exceed applicable criteria in nearby/downgradient monitoring wells by the aboveground piping.
- Contaminants identified along the southern portion of the aboveground product piping may stem from spill(s) associated with the truck unloading station. The extent of contaminants has been adequately defined. All potential exposure pathways have been addressed in the NFA Report and pending Restrictive Covenant.

Product Piping (Underground)

- Soil borings J-1, J-2, J-11, J-17, J-25 through J-MW31, J-33, J-54, J-MW55, J-59 through J-MW61, J-66, and J-MW67 were advanced to characterize conditions along the underground product piping. Temporary monitoring wells were set at J-1 and J-11 while permanent monitoring wells were set at J-MW26, J-MW30, J-MW31, J-MW55, J-MW61, and J-MW67.
- A PID response of 164 was identified at a depth of 2.5 feet in J-29. Minor PID responses were also identified in J-MW31 (0.4) and J-MW67 (0.1). No obvious staining or petroleum odors were observed in any soil borings or monitoring wells near underground product piping.



- Soil and groundwater samples were collected from several of the aforementioned soil borings and monitoring wells for analyses of PNAs and VOCs.
- The concentration of three PNAs exceed GSIP criterion in a single soil sample from J-17 (6'-8'). While petroleum-related constituents (PNAs and VOCs) were detected in soil samples collected near underground piping in the southeast corner of the AST containment berm, it should be noted that this area is directly downgradient of the truck unloading station. No petroleum-related contaminants exceed applicable criteria in nearby/downgradient monitoring wells by the underground piping.
- While a data gap is noted along a section of underground piping (southern property boundary to J-MW67), a significant amount of data (field observations and analytical) along the remaining underground piping suggests adequate characterization. It should be noted that a release has not been reported from the underground piping at the GOT.

ASTs (#1, #2, and #3)

- In addition to the majority of borings used to characterize conditions along the underground piping (see previous section), soil borings J-3 through J-8, J-18, J-32, J-MW34, J-37, J-MW38, J-MW40, J-MW41, J-44, and J-63 through J-65 were advanced to define conditions around and immediately downgradient of the three ASTs. A temporary monitoring well was set at J-18 while permanent monitoring wells were set at J-MW34, J-MW38, J-MW40, and J-MW41.
- In addition to PID responses from three borings near the southeast corner of the containment berm (discussed in previous section), a minor PID response (6.0) was identified in J-MW38. No obvious staining or petroleum odors were observed in any soil borings or monitoring wells near or downgradient of the three ASTs.
- Soil and groundwater samples were collected from several of the aforementioned soil borings and monitoring wells for analyses of PNAs and VOCs.
- With exception of impact identified near the southeast corner of the containment berm (previously discussed), no petroleum-related contaminants exceed soil or groundwater criterion in sample locations near or downgradient of the three ASTs.



- A data gap is noted for sections around the three ASTs (specifically the northern/western section of AST #1, northern/eastern section of AST #2, and eastern/southern section of AST #3). While a release from an AST of this magnitude would likely be substantial, minimal contaminants have been identified in the extensive sampling network surrounding the three ASTs. It should be noted that a release has not been reported from the three ASTs. All three ASTs have cathodic protection and tank inspections were completed in 2012 and 2016, respectively (Attachment C).

Storage of Coal and Byproduct Material

- Based upon historical aerial photos, coal and byproduct material (clinkers, slag, etc.) was stored across the majority of the facility, with exception of the main entrance and sections of the woodlot south of Bunce Creek. As such, soil samples from various intervals at all 96 soil borings were analyzed for Michigan 10 metals (along with boron and lithium in select locations). Groundwater samples from all temporary and permanent monitoring wells (27 total) were analyzed for Michigan 10 metals (along with boron and lithium in select locations).
- The concentration of metals in select soil and groundwater samples exceed GSI/GSIP and Direct Contact criterion. These exceedances were addressed in the NFA Report and pending Restrictive Covenant.
- As observed in borings advanced across the GOT, an insignificant amount of coal and fly ash was observed in the subsurface. Coal was predominantly observed as a fraction of miscellaneous fill, which was encountered in several locations throughout the GOT. Fly ash was primarily observed at the base of the southern AST containment berm.

As the GOT currently sits idle, the three ASTs have been emptied and cleaned. The associated product piping has been disconnected and purged. Supplemental operational information, in conjunction with the available analytical and field data, suggests that the majority of PNAs and VOCs identified at the GOT (near the southeast corner of the AST containment berm) may be associated with surface spill(s) by the truck unloading station. While data gaps exist near portions of the petroleum distribution and storage system, a lack of petroleum-related contaminants in nearby/downgradient sample locations suggest that the GOT has been adequately characterized and is appropriate for a site-wide NFA determination.



Ms. Emily Bertolini
Michigan Department of Environmental Quality
November 21, 2016
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Due to time-sensitive contractual obligations between CDC Marysville, LLC (current owner) and DTE Energy (former owner), an expedited review by MDEQ would be greatly appreciated. Upon your review, we wish to discuss plans to submit a NFA Report Addendum for the GOT. If you have any questions, comments or require additional information, please do not hesitate to contact our office at (269) 342-1100.

Sincerely,

ENVIROLOGIC TECHNOLOGIES, INC.



David B. Warwick
Vice President – Hydrogeologist



Derrick Lingle
Project Geologist

Enclosure

cc: Cheryl Wilson, MDEQ
Adam Peetz, EnviroAnalytics Group
David Craig, EnviroAnalytics Group



ATTACHMENT A

Historical Aerials





INQUIRY #: 3879825.5

YEAR: 1937

| = 500'





INQUIRY #: 3879825.5

YEAR: 1957

| = 500'





INQUIRY #: 3879825.5

YEAR: 1970

| = 600'





INQUIRY #: 3879825.5

YEAR: 1980

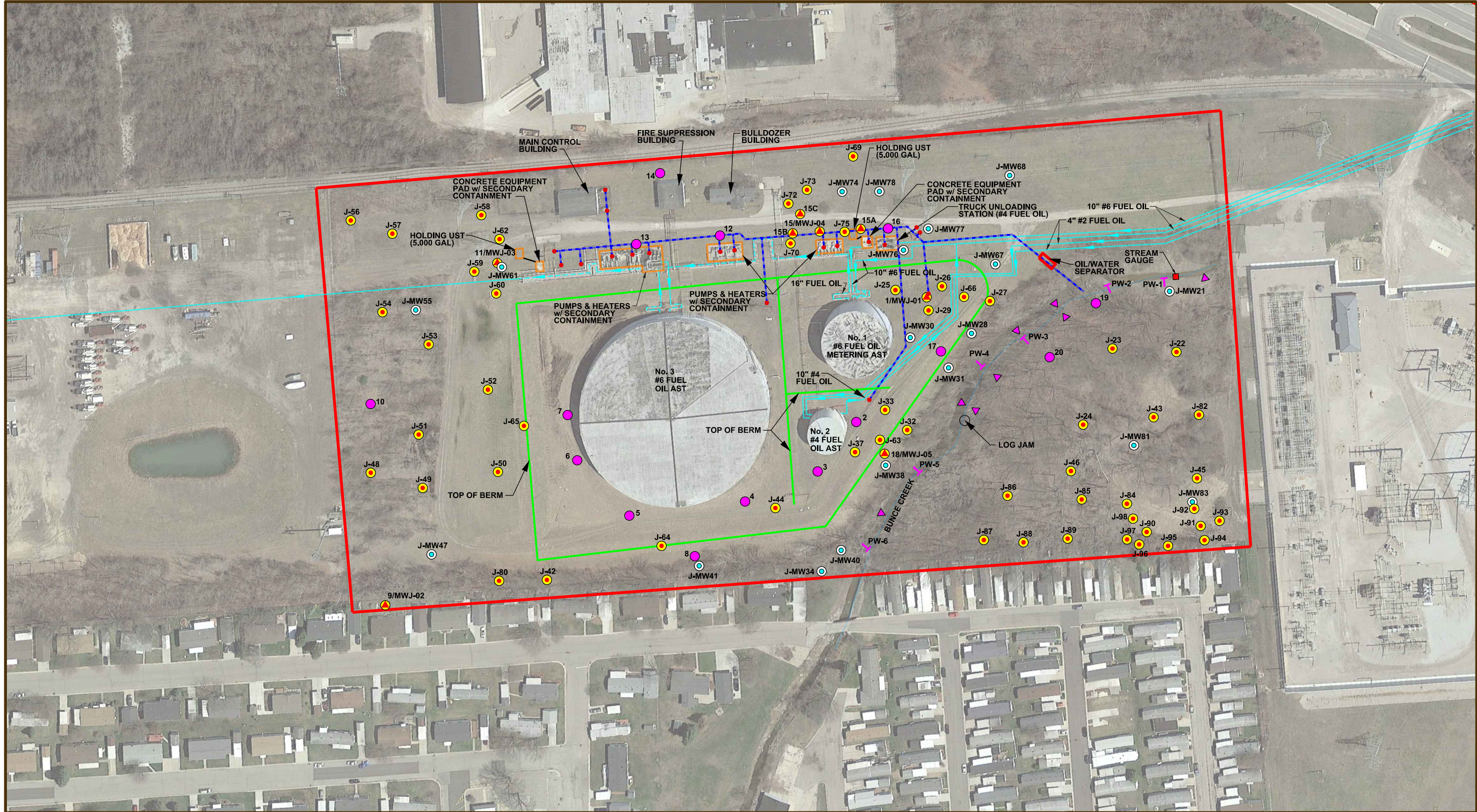
| = 600'



ATTACHMENT B

Figure





140189 Site Plan-Site Plan P-000.pdf

LEGEND

- SOIL BORING LOCATION (PHASE II)
- SOIL BORING/TEMPORARY MONITORING WELL LOCATION (PHASE II)
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- PORE WATER SAMPLE
- SECTION OF LOSING STREAM
- APPROXIMATE LOCATION OF PRODUCT PIPING (DASHED WHERE ABOVE GROUND)
- STORM SEWER INLET LOCATION
- STORM SEWER PIPING (APPROXIMATE)

NOTE:
THIS IS NOT A PROPERTY BOUNDARY SURVEY, PROPERTY BOUNDARIES SHOWN ON THIS MAP ARE BASED ON AVAILABLE FURNISHED INFORMATION AND ARE APPROXIMATE ONLY AND SHOULD NOT BE USED TO ESTABLISH PROPERTY BOUNDARY LOCATION IN THE FIELD.

envirollogic
environmental consulting + services
2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49048
PH: (269) 342-1100 FAX: (269) 342-4945

GREENWOOD OIL TERMINAL
298 GRATIOT BLVD
MARYSVILLE, MI

SITE PLAN WITH SOIL BORINGS AND MONITORING WELL LOCATIONS

PROJECT NO.
150323

FIGURE No.
3

ATTACHMENT C

Supporting Documentation



Notification for Underground Storage Tanks

FORM APPROVED
OMB NO. 2050-2049
APPROVAL EXPIRES 6-30-88

FOR
TANKS
IN
MI

RETURN
COMPLETED
FORM
TO

Ground Water Quality Division
Department of Natural Resources
Box 30157
Lansing, MI 48909

I.D. Number
Date Received

STATE USE ONLY

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—
(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and
(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;

4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed \$10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

DETROIT EDISON COMPANY

Street Address

2000 SECOND AVENUE

County

WAYNE

City

DETROIT

State

MI

ZIP Code

48226

Area Code
(313)

Phone Number
237-8000

Type of Owner (Mark all that apply)

☒ Current

☐ State or Local Gov't

☒ Private or Corporate

☐ Former

☐ Federal Gov't
(GSA facility I.D. no. _____)

☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☐)

Facility Name or Company Site Identifier, as applicable

MARYSVILLE TERMINAL

Street Address or State Road, as applicable

3215 RAVENSWOOD

County

ST. CLAIR

City (nearest)

MARYSVILLE

State

MI

ZIP Code

48040

Indicate number of tanks at this location

Exempt
2

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐)

KIM M. ROBERTS

Job Title

ENGINEER, ENVIRONMENTAL AFFAIRS

Area Code

(313)

Phone Number

237-8226

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative

MORTON STERLING, DIRECTOR-ENVIRONMENTAL AFFAIRS

Signature

Morton Sterling

Date Signed

4-22-86

CONTINUE ON REVERSE SIDE

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 276	Tank No. 277	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply <input checked="" type="checkbox"/>) Currently in Use Temporarily Out of Use Permanently Out of Use Brought into Use after 5/8/86	<input checked="" type="checkbox"/> Exempt	<input checked="" type="checkbox"/> Exempt	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2. Estimated Age (Years)	8	8			
3. Estimated Total Capacity (Gallons)	5,000	5,000			
4. Material of Construction (Mark one <input checked="" type="checkbox"/>) Steel Concrete Fiberglass Reinforced Plastic Unknown Other, Please Specify _____	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5. Internal Protection (Mark all that apply <input checked="" type="checkbox"/>) Cathodic Protection Interior Lining (e.g., epoxy resins) None Unknown Other, Please Specify _____	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6. External Protection (Mark all that apply <input checked="" type="checkbox"/>) Cathodic Protection Painted (e.g., asphaltic) Fiberglass Reinforced Plastic Coated None Unknown Other, Please Specify _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7. Piping (Mark all that apply <input checked="" type="checkbox"/>) Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Cathodically Protected Unknown Other, Please Specify _____	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply <input checked="" type="checkbox"/>) a. Empty b. Petroleum Diesel Kerosene Gasoline (including alcohol blends) Used Oil Other, Please Specify _____ c. Hazardous Substance Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No. Mark box <input checked="" type="checkbox"/> if tank stores a mixture of substances d. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Additional Information (for tanks permanently taken out of service) a. Estimated date last used (mo/yr) b. Estimated quantity of substance remaining (gal.) c. Mark box <input checked="" type="checkbox"/> if tank was filled with inert material (e.g., sand, concrete)	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>

ATTN: STELLA RONADO
NOTE TANK CHANGES

91-74-052

BODY
FM-52 (9-92)
MI Dept. of State Police
State Fire Marshal

TRIENNIAL

ORIGINAL STORAGE INSPECTION

RECEIVED

AUTHORITY: 1941 PA 207
COMPLIANCE: REQUIRED
PENALTY: MISDEMEANOR

FIRM INFORMATION	Firm Name: DETROIT EDISON		P.R. No.:
	Terminal Address: 301 GRATIOT		County: ST. CLAIR
	City: MARYSVILLE	St. MI. E	Zip: 48040

Name & Mailing Address of Firm Submitting Plans	Fire Marshal Field Office SECOND DISTRICT 42145 W. 7 MILE RD. NORTHVILLE, MI. 48167 Telephone: 313-380-1057
---	---

SI	Approved	Disapp.	Sign. of SFM Officer/Badge No.	Date: 93/10/29
IN	*CONTACT FIELD OFFICE FOR FINAL INSPECTION PRIOR TO PLACING INTO SERVICE			
TS	*CERTIFICATE OF ELECTRICAL APPROVAL REQUIRED FROM INSPECTING AUTHORITY HAVING JURISDICTION			
EP				

INSPECTION	1st X Cert.	Disapp.	Sign. of SFM Officer/Badge No. <i>Douglas Futura H.M.Sel</i>	Date: 93/10/29
	2nd X Cert.	Disapp.	Sign. of SFM Officer/Badge No. <i>Douglas Futura H.M.Sel</i>	Date: 94/01/11
	3rd Cert.	Disapp.	Sign. of SFM Officer/Badge No.	Date:

RD EI AS SA OP NP SR OV ED	RULE NO.	REASON
	2-9.3	LABEL TANK TO WHAT IT CONTAINS (COMBUSTIBLE LIQUID KEEP FIRE AWAY 3in. TALL LETTERS.) SUGGEST REPAIRING HIGH LEVEL ALARM SO ALL LIGHTS ARE NOT ON AT SAME TIME. SUGGEST REPAIRING BROKEN FOAM PIPE AT TOP OF TANK. THE TWO 2 ABOVE SUGGESTIONS MAY BE A REQUIREMENT OF YOUR LOCAL FIRE DEPT. REPORT TO BE SENT TO LOCAL FIRE DEPT. FULL APPROVAL AS OF 1-11-94

M T A S E S R T M E I R N A I L N F O	1 2 TC 3 CO 4 Term No. 5 Firm Name 6 Phone No.
	9 1 74 052 DETROIT EDISON 313/364-2218
	AG USE ONLY 7 Firm Mailing Address 8 City 9 St. 10 Zip
	TC = Trans Code 11 Contact Person 12 Phone No.
	1 = FL/C1 2 = LPG 13 Terminal Address 14 City 15 St. 16 Zip
	17 City 18 FDID 19 Terminal Type: LP-- Plant Dist. Point Indust. Plant Motor Fueling Other
	X FL/HAZ MAT-- X Bulk Pipeline Refinery Industrial Marine Oil Well Other Service Station

T A N K I N F O	Tank No.	Tank Class	Serial No. (LPG)	Manufacturer (LPG)	Yr	Capacity (gal)
	001	#6 OIL		NON-REGULATED	1978	2,700,600
	002	C/L		DIESEL	1978	676,200
	003	#6 OIL		NON-REGULATED	1978	16,909,200

91074052

DTE Energy



March 14, 2008

Michigan Department of Environmental Quality
Waste and Hazardous Materials Division
P.O. Box 30241
Lansing, MI 48909-7241

RE: INTERNAL TANK INSPECTION SUMMARYS

PM ²
Enclosed are ~~five~~ ² *Internal Tank Inspection Summary* reports for the following Detroit Edison facilities:

Greenwood Energy Center, Facility Number 91084636, Tank #2
Marysville Power Plant, Facility Number 91074052, Tank #3 (tank has since been removed)

We apologize for the delay in sending these reports. Detroit Edison was under the impression that our contractor was mailing these directly to you. Our contractor was under the impression we were mailing them.

If you need additional information, please do not hesitate to contact me at 313_897_1318.

Franklin LeForce
Senior Environmental Specialist
Environmental Management & Resources

FEL

Enclosures: (2) Internal Tank Inspection Summary records

Waste & Hazardous
Materials Division

MAR 21 2008



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, WASTE AND HAZARDOUS MATERIALS DIVISION,

PO BOX 30241, LANSING, MI 48909-7241, Phone 517-335-4035, Fax 517-335-2245, E-mail DEQ-STD-TANKS@michigan.gov

MAR 21 2003

INTERNAL TANK INSPECTION SUMMARY

INSTRUCTIONS: This form is to be used for recording the summary information based on an internal tank inspection pursuant to API Standard 653, 3rd edition, and STI SP001-00, 1st edition. This is required under Part 2 of the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules. Fill in ALL applicable data. A copy of this completed form shall be submitted to the Waste and Hazardous Materials Division within 60 days of completion of the inspection.

Faxed to Doug K 3-24-03 SE

OWNER INFORMATION			PROJECT INFORMATION			INSPECTOR INFORMATION		
Name Detroit Edison Company			Facility Name Marysville Power Plant		Facility ID 91074052	Inspector Name Donald G. Hipshier, P.E.		
Company Name Detroit Edison Company			Site Address 301 Gratiot Blvd.			API Cert. # or STI Cert. # API #26639		
Street Address 7940 Livernois, RMH-136			CITY Marysville	STATE MI	ZIP CODE 48040	Company Name Sidock Group, Inc.		
CITY Detroit	STATE MI	ZIP CODE 48210	County St. Clair			Street Address 43155 Main Street, Suite 2310		
Telephone Number (313) 897-0716			Tank Number T2703			CITY Novi		
Fax Number (313) 897-0160			Construction Date 1977			STATE MI		
						ZIP CODE 48375		
						Telephone Number (248) 349-4500		
						Fax Number (248) 349-1429		

GENERAL INSPECTION INFORMATION:

Inspection Date: Nov. 2006

Type: ☒ External ☒ Ultrasonic ☒ Internal

Purpose: ☒ Scheduled ☐ Unscheduled ☐ Other (specify):

Inspection performed in accordance with

Prior Inspection Date: N/A

Type: ☐ External ☐ Ultrasonic ☐ Internal

Michigan FL/CL Rules

TANK SPECIFICATIONS:

Manufacturer:	Chicago Bridge & Iron Company	Contents:	#6 Fuel Oil	Specific Gravity:	0.9687
Dimensions:	300'-0" Dia. x 32'-0" Tall	Capacity:	17,400,000 Gallons	Fill Height:	30'-11"
Product heated:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Maximum Operating Temperature # (F):	175 Deg.		

TANK CONSTRUCTION:

1. ☒ Bare Steel 2. ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date installed: 2006

3. ☐ Coated Steel 4. ☐ Double Bottom 5. ☐ Double Wall 6. ☐ Lined 7. ☐ Other (specify):

Bottom: ☒ Welded ☐ Riveted Original Thickness: 0.25 in. ☐ Leak Detection Date Installed:

Shell: ☒ Welded ☐ Riveted No. of Courses: 4 Orig. Course Thickness: 1. .875" 2. .6475" 3. .6475"

4. .375" 5. N/A 6. N/A 7. N/A 8. N/A

Foundation: ☐ Grade ☐ Concrete Pad ☒ Concrete Ringwall ☐ Stone Ringwall ☐ Other

Bottom Release Prevention/Detection: 1. ☒ Impermeable Dike Liner (Description) Earth and Clay Berm (Secondary Containment) w/liner

2. ☐ Cathodic Protection (Date of last survey & results):

3. ☐ Internal Lining (Date installed & type):

4. ☐ Groundwater monitoring 5. ☐ Vapor monitoring 6. ☐ Interstitial monitoring

Roof: 1. ☐ Open 2. ☒ Fixed: ☒ Cone ☐ Dome ☐ Umbrella ☐ Other:

3. ☐ Floating: ☐ Internal ☐ External ☐ None

TANK INSPECTION:

Nondestructive Test Method: (Check where test applied)	Bottom		Shell		Roof	
	Weld	Plate	Weld	Plate	Weld	Plate
Visual	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Spot)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Scan)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liquid Penetrant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Penetrating Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magnetic Particle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mag Flux Scan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vacuum Box	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tracer Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holiday (Coatings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Describe)						

Settlement Evaluation: ☒ Yes ☐ No

INSPECTION RESULTS:

	Bottom		Shell		Roof	
	External	Internal	External	Internal	Fixed	Floating
Min. Remaining Thickness	N/A	.25 in.	N/A	.859 in.	.194 in.	N/A
Min. Required Thickness	N/A	.10 in.	N/A	.804 in.	.125 in.	N/A
Max. Corrosion Rate	N/A	N/A	N/A	.552 mil/yr	1.86 mil./yr	N/A

Release?

Bottom: ☐ Yes ☒ No Shell: ☐ Yes ☒ No

Settlement Within
Tolerance?

Bottom (max.): ☒ Yes ☐ No Differential: ☒ Yes ☐ No Edge: ☒ Yes ☐ No Bulges/Ridges: ☐ Yes ☒ No

Comments: Tank is not experiencing excessive settlement or distortion based on settlement survey
and visual inspections.

REPAIR SUMMARY: (Include description, date completed, and date of post-repair inspection)

Foundation: No repairs required

Bottom: Cladding plates will be installed over one topside pit and one bottom side pit.

Shell: Reinstall door opening

Roof: No repairs required

Appurtenances: No repairs required

Hydrostatic test required?: ☐ Yes ☒ No Test date: N/A

Results: Repair will be approved by individual API certified and Michigan Professional Engineer and
Owner. All shell welds will be x-ray tested

INSPECTION SCHEDULE: (Supporting calculations shall be available for review upon request)

External (ultrasonic): Corrosion rate known?: ☒ Yes ☐ No
(Year) #1: 2021 #2: 2036 #3: 2051 #4: 2066 #5: 2081

External (visual): (Year) #1: 2011 #2: 2016 #3: 2021 #4: 2026 #5: 2031

Internal: (Year) 2026

CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS
FORM AND ALL ATTACHED DOCUMENTS AND THAT I HAVE VERIFIED THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

API 653 INSPECTOR or STI INSPECTOR

DONALD G. HIPSHIER

SIGNATURE

D. G. Hipshier

DATE

4-12-07

If you have questions regarding this form, please contact the Storage Tank Unit, Monday through Friday, between 8:00 a.m. and 5:00 p.m.

Phone: 517-335-4035

Fax: 517-335-2245

E-mail: DEQ-STD-TANKS@michigan.gov

Web Site: www.michigan.gov/deq

DTE Energy



7-4-08
faxed to
Doug K
SEMI / zm

91074052

April 2, 2008

Michigan Department of Environmental Quality
Waste and Hazardous Materials Division
P.O. Box 30241
Lansing, MI 48909-7241

RE: INTERNAL TANK INSPECTION SUMMARYS

Enclosed are two *Internal Tank Inspection Summary* reports for our Marysville Power Plant, facility ID 91074052.

We apologize for the delay in sending these reports. We only recently received them from our API inspector.

If you need additional information, please do not hesitate to contact me at 313_897_1318.

Franklin LeForce
Senior Environmental Specialist
Environmental Management & Resources

FEL

Enclosures: (2) Internal Tank Inspection Summary records

Waste & Hazardous
Materials Division

APR 07 2008



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, WASTE AND HAZARDOUS
MATERIALS DIVISION,

PO BOX 30241, LANSING, MI 48909-7241, Phone 517-335-4035, Fax 517-335-2245, E-mail DEQ-STD-TANKS@michigan.gov

91674052

INTERNAL TANK INSPECTION SUMMARY

INSTRUCTIONS: This form is to be used for recording the summary information based on an internal tank inspection pursuant to API Standard 653, 3rd edition, and STI SP001-00, 1st edition. This is required under Part 2 of the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules. Fill in ALL applicable data. A copy of this completed form shall be submitted to the Waste and Hazardous Materials Division within 60 days of completion of the inspection.

OWNER INFORMATION			PROJECT INFORMATION			INSPECTOR INFORMATION		
Name Detroit Edison Company			Facility Name Marysville Power Plant		Facility ID 91074052	Inspector Name Don Hipshier		API Cert. # or STI Cert. # API 26639
Company Name Detroit Edison Company			Site Address 301 Gratiot Blvd.			Company Name Sidock Group, Inc.		
Street Address 7940 Livernois, RM H-136			CITY St. Clair	STATE MI	ZIP CODE 48040	Street Address 43155 Main Street, Suite 2310		
CITY Detroit	STATE MI	ZIP CODE 48120	County St. Clair			CITY Novi	STATE MI	ZIP CODE 48375
Telephone Number 313-897-0716			Tank Number T2701 Construction Date 1978			Telephone Number 248-349-4500		
Fax Number 313-897-0160						Fax Number 248-349-1429		

GENERAL INSPECTION INFORMATION:

Inspection Date: Dec. 2007

Type: ☐ External ☒ Ultrasonic ☒ Internal

Purpose: ☒ Scheduled ☐ Unscheduled ☐ Other (specify):

Inspection performed in accordance with

Prior Inspection Date: N/A

Type: ☐ External ☐ Ultrasonic ☐ Internal

Michigan FL/CL rules

TANK SPECIFICATIONS:

Manufacturer:	Chicago Bridge & Iron	Contents:	No. 2 Fuel Oil	Specific Gravity:	1.0
Dimensions:	60'dia x 32' Tall	Capacity:	675,000 gallon	Fill Height:	30' Approx.
Product heated:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Maximum Operating Temperature # (F):	Ambient		

TANK CONSTRUCTION:

1. ☒ Bare Steel 2. ☒ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☒ Impressed Current) Date Installed: _____
3. ☐ Coated Steel 4. ☐ Double Bottom 5. ☐ Double Wall 6. ☐ Lined 7. ☐ Other (specify): _____

Bottom: ☒ Welded ☐ Riveted Original Thickness: 0.25 in ☐ Leak Detection Date Installed: _____

Shell: ☒ Welded ☐ Riveted No. of Courses: 4 Orig. Course Thickness: 1. 0.334 in 2. 0.2636 in 3. 0.25 in
4. 0.25 in 5. _____ 6. _____ 7. _____ 8. _____

Foundation: ☐ Grade ☐ Concrete Pad ☒ Concrete Ringwall ☐ Stone Ringwall ☐ Other

Bottom Release Prevention/Detection: 1. ☐ Impermeable Dike Liner (Description) Earth/Clay Berm

2. ☒ Cathodic Protection (Date of last survey & results): _____

3. ☐ Internal Lining (Date installed & type): _____

4. ☐ Groundwater monitoring 5. ☐ Vapor monitoring 6. ☐ Interstitial monitoring

Roof: 1. ☐ Open 2. ☐ Fixed: ☒ Cone ☐ Dome ☐ Umbrella ☐ Other: _____

3. ☐ Floating: ☐ Internal ☐ External ☐ None

Waste & Hazardous
Materials Division

APR 07 2008

TANK INSPECTION:

Nondestructive Test Method:

(Check where test applied)

	Bottom		Shell		Roof	
	Weld	Plate	Weld	Plate	Weld	Plate
Visual	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Spot)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Scan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liquid Penetrant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Penetrating Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magnetic Particle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mag Flux Scan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vacuum Box	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tracer Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holiday (Coatings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Describe)						

Settlement Evaluation: ☒ Yes ☐ No

INSPECTION RESULTS:

	Bottom		Shell		Roof	
	External	Internal	External	Internal	Fixed	Floating
Min. Remaining Thickness	N/A	0.19 in	N/A	0.241 in	0.181 in	N/A
Min. Required Thickness	N/A	0.10 in	N/A	0.1055 in	0.1775 in	N/A
Max. Corrosion Rate	N/A	2 mil/year	N/A	0.3 mil/year	0.22 mil/year	N/A

Release?

Bottom: ☐ Yes ☒ No Shell: ☐ Yes ☒ No

Settlement Within

Tolerance?

Bottom (max.): ☒ Yes ☐ No

Differential: ☒ Yes ☐ No

Edge: ☒ Yes ☐ No

Bulges/Ridges: ☒ Yes ☐ No

Comments: The tank is not experiencing excessive settlement or distortion based on the settlement survey and visual inspections

REPAIR SUMMARY: (Include description, date completed, and date of post-repair inspection)

Foundation: Install sealant between concrete ring wall and tank bottom

Bottom: Install puddle welds and/or patch plates over pitted areas. Repair areas documented on inspection drawings. Repairs were made and reviewed January 2008.

Shell: No repairs required

Roof: No repairs required

Appurtenances: Clean two grounding straps, install new bolts on roof vent, replace fall protection cables, paint tank at exposed locations and fix gap at stair landing.

Hydrostatic test required?: ☐ Yes ☒ No Test date: _____

Results: _____

INSPECTION SCHEDULE: (Supporting calculations shall be available for review upon request)

External (ultrasonic): Corrosion rate known?: ☒ Yes ☐ No
(Year) #1: 2022 #2: 2037 #3: 2052 #4: 2067 #5: 2082

External (visual): (Year) #1: 2012 #2: 2017 #3: 2022 #4: 2027 #5: 2032

Internal: (Year) 2027

CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS FORM AND ALL ATTACHED DOCUMENTS AND THAT I HAVE VERIFIED THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

API 653 INSPECTOR or STI INSPECTOR

Don Hipshier

SIGNATURE



DATE

03/26/2008

If you have questions regarding this form, please contact the Storage Tank Unit, Monday through Friday, between 8:00 a.m. and 5:00 p.m.

Phone: 517-335-4035 Fax: 517-335-2245

E-mail: DEQ-STD-TANKS@michigan.gov

Web Site: www.michigan.gov/deq



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, WASTE AND HAZARDOUS
MATERIALS DIVISION,**

PO BOX 30241, LANSING, MI 48909-7241, Phone 517-335-4035, Fax 517-335-2245, E-mail DEQ-STD-TANKS@michigan.gov

INTERNAL TANK INSPECTION SUMMARY

INSTRUCTIONS: This form is to be used for recording the summary information based on an internal tank inspection pursuant to API Standard 653, 3rd edition, and STI SP001-00, 1st edition. This is required under Part 2 of the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules. Fill in ALL applicable data. A copy of this completed form shall be submitted to the Waste and Hazardous Materials Division within 60 days of completion of the inspection.

OWNER INFORMATION			PROJECT INFORMATION			INSPECTOR INFORMATION		
Name Detroit Edison Company			Facility Name Marysville Power Plant		Facility ID 91074052	Inspector Name Don Hipshier		API Cert. # or STI Cert. # API 26639
Company Name Detroit Edison Company			Site Address 301 Gratiot Blvd.			Company Name Sidock Group, Inc.		
Street Address 7940 Livernois, RM H-136			CITY St. Clair	STATE MI	ZIP CODE 48040	Street Address 43155 Main Street, Suite 2310		
CITY Detroit	STATE MI	ZIP CODE 48120	County St. Clair			CITY Novi	STATE MI	ZIP CODE 48375
Telephone Number 313-897-0716			Tank Number T2702 Construction Date 1977			Telephone Number 248-349-4500		
Fax Number 313-897-0160						Fax Number 248-349-1429		

GENERAL INSPECTION INFORMATION:

Inspection Date: Dec. 2007

Type: ☐ External ☒ Ultrasonic ☒ Internal

Purpose: ☒ Scheduled ☐ Unscheduled ☐ Other (specify):

Inspection performed in accordance with

Prior Inspection Date: N/A

Type: ☐ External ☐ Ultrasonic ☐ Internal

Michigan FL/CL rules

TANK SPECIFICATIONS:

Manufacturer:	Chicago Bridge & Iron	Contents:	No. 6 Fuel Oil	Specific Gravity:	1.0
Dimensions:	110'dia x 40' Tall	Capacity:	3,200,000 gallon	Fill Height:	36' Approx.
Product heated:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Maximum Operating Temperature # (F):	Ambient		

TANK CONSTRUCTION:

1. ☒ Bare Steel 2. ☒ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☒ Impressed Current) Date Installed: _____
 3. ☐ Coated Steel 4. ☐ Double Bottom 5. ☐ Double Wall 6. ☐ Lined 7. ☐ Other (specify): _____

Bottom: ☒ Welded ☐ Riveted Original Thickness: 0.25 in ☐ Leak Detection Date Installed: _____

Shell: ☒ Welded ☐ Riveted No. of Courses: 5 Orig. Course Thickness: 1. 0.599 in 2. 0.479 in 3. 0.375 in
 4. 0.3125 in 5. 0.2813 in 6. _____ 7. _____ 8. _____

Foundation: ☐ Grade ☐ Concrete Pad ☒ Concrete Ringwall ☐ Stone Ringwall ☐ Other

Bottom Release Prevention/Detection: 1. ☐ Impermeable Dike Liner (Description) Earth/Clay Berm

2. ☒ Cathodic Protection (Date of last survey & results): _____

3. ☐ Internal Lining (Date installed & type): _____

4. ☐ Groundwater monitoring 5. ☐ Vapor monitoring 6. ☐ Interstitial monitoring

Roof: 1. ☐ Open 2. ☐ Fixed: ☒ Cone ☐ Dome ☐ Umbrella ☐ Other: _____

3. ☐ Floating: ☐ Internal ☐ External ☐ None

*Waste & Hazardous
Materials Division*

APR 07 2008

TANK INSPECTION:

Nondestructive Test Method: (Check where test applied)	Bottom		Shell		Roof	
	Weld	Plate	Weld	Plate	Weld	Plate
Visual	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Spot)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ultrasonic (Scan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liquid Penetrant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Penetrating Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magnetic Particle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mag Flux Scan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vacuum Box	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tracer Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holiday (Coatings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Describe)						

Settlement Evaluation: ☒ Yes ☐ No

INSPECTION RESULTS:

	Bottom		Shell		Roof	
	External	Internal	External	Internal	Fixed	Floating
Min. Remaining Thickness	N/A	0.24 in	N/A	0.272 in	0.193 in	N/A
Min. Required Thickness	N/A	0.10 in	N/A	0.075 in	0.1775 in	N/A
Max. Corrosion Rate	N/A	.333 mil/year	N/A	0.3 mil/year	0.18 mil/year	N/A

Release?

Bottom: ☐ Yes ☒ No Shell: ☐ Yes ☒ No

Settlement Within
Tolerance?

Bottom (max.): ☒ Yes ☐ No Differential: ☒ Yes ☐ No Edge: ☒ Yes ☐ No Bulges/Ridges: ☒ Yes ☐ No

Comments: The tank is not experiencing excessive settlement or distortion based on the settlement survey and visual inspections

REPAIR SUMMARY: (Include description, date completed, and date of post-repair inspection)

Foundation: Install sealant between concrete ring wall and tank bottom, repair spalled foundation concrete.

Bottom: Install puddle welds and/or patch plates over pitted areas. Repair areas documented on inspection drawings. Repairs were made and reviewed January 2008.

Shell: No repairs required

Roof: Install pair of stiffeners to one (1) buckled rafter. Repair made and reviewed January, 2008. One rafter with minor impact damage; no repair required.

Appurtenances: One grounding strap broken. Repair completed and reviewed January, 2008. Replace fall protection cables.

Hydrostatic test required?: ☐ Yes ☒ No Test date: _____

Results: _____

INSPECTION SCHEDULE: (Supporting calculations shall be available for review upon request)

External (ultrasonic): Corrosion rate known?: ☒ Yes ☐ No
(Year) #1: 2022 #2: 2037 #3: 2052 #4: 2067 #5: 2082

External (visual): (Year) #1: 2012 #2: 2017 #3: 2022 #4: 2027 #5: 2032

Internal: (Year) 2027

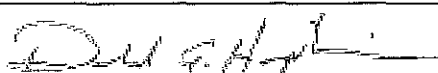
CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS FORM AND ALL ATTACHED DOCUMENTS AND THAT I HAVE VERIFIED THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

API 653 INSPECTOR or STI INSPECTOR

Don Hipshier

SIGNATURE



DATE

03/26/2008

If you have questions regarding this form, please contact the Storage Tank Unit, Monday through Friday, between 8:00 a.m. and 5:00 p.m.

Phone: 517-335-4035

Fax: 517-335-2245

E-mail: DEQ-STD-TANKS@michigan.gov

Web Site: www.michigan.gov/deq

DTE Energy



Detroit Edison

Date: November 12, 2012

To: Russell J. Pogats
Plant Director Fossil Generation
Fossil Generation - North Area

Mark VanderHeuvel
Plant Manager Fossil Generation
Greenwood Energy Center/Marysville Oil Terminal

From: Gary L. Slater, NACE CP Specialist #6738 *GLS*
Corrosion Control Services (CCS)
Asset Optimization - Engineering - Performance Services

Subject: 2012 - Annual Cathodic Protection System Evaluation of the
Main, Metering & Cutter Fuel Oil AST's at the Detroit Edison
Marysville Oil Terminal

In April 2012, a corrosion control contractor working for the Corrosion Control Services group (CCS) collected data necessary to evaluate the cathodic protection on the soil-side surface of the floor plates on the Main, Metering and Cutter Fuel Oil Storage Tanks at Detroit Edison's Marysville Oil Terminal. The following report serves to document the results of the tank evaluation tests and provide a written record for the MDEQ.

The soil-side surface of the floor plate of each AST is protected against corrosion with separate impressed-current cathodic protection systems, with the anode(s) distributed around the perimeter of each tank. Perforated PVC pipes are installed under each tank so that the level of cathodic protection applied to the floor plates can be evaluated. This is accomplished by moving a saturated copper-copper sulfate reference electrode inside the perforated PVC pipes from one end of the tank to the other and measuring structure-to-soil voltages in the process. A high-impedance Fluke DVM is used for these measurements.

The National Association of Corrosion Engineers (NACE International) has established acceptance criteria for cathodic protection of steel floor plates for on-grade storage tanks. The criteria are published in the latest revision of NACE Recommended Practices RP0193. For these storage tank installations, the applicable criterion is as follows:

- A minimum of 100mV of cathodic polarization between the metallic structure and a stable reference electrode that are both in direct contact with the soil electrolyte. The formation or decay of polarization can be measured to satisfy this criterion. In reference to the attached data sheets, the measure of cathodic polarization formation is provided in the column labeled "Corrected Polar". It is the algebraic difference between the instant-off or "IO" reads and the "Static" reads, both of which have been corrected to a standard copper-copper sulfate reference electrode. The "static" potentials were measured for all 3 tanks in August 2005, after the cathodic protection systems had been de-energized for an extended period of time. (Ref. NACE RP0193, Section 4.3.1.3)

For the 2012 evaluation period, the data collected on all 3 tanks indicate that the level of cathodic protection on the soil-side surface of each tank bottom, at the time of testing, appears to easily satisfy the minimum cathodic polarization criterion.

The following table summarizes the supplied CP current and the calculated tank bottom collection current density for each tank. The current density calculation assumes that the entire surface of the tank bottom is in contact with the soil electrolyte. Error may be introduced in the calculation if the tanks are empty allowing the tank bottom to lift off the soil or if polarization effects due to a lack of oxygen underneath the tank are not considered. Since all 3 tanks are empty, this may explain the low current density reads.

Tank	Surface Area (sq-ft)	I _{CP} (A)	Current Density (mA/sq-ft)
300' Main	70686	11.28	.160
110' Metering	9503	3.70	.389
60' Cutter	2827	1.46	.516

Data collection for the 2012 evaluation was completed by:

Mr. Matt Griffin w/ Corrpro Companies, Inc., a NACE Sr. Corrosion Technologist

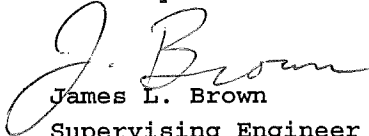
Ltr., R. J. Pogats and M. VanderHeuvel
November 12, 2012
Page 3 of 3

Monthly Rectifier Reads

For 2012, the CCS office did not receive any monthly rectifier reads for the Marysville tank rectifiers. Because of this, a statement cannot be made reflecting the level of protection on the tank bottoms being constant and continuous for the entire year.

Personnel at the Greenwood EC facility should continue to measure the rectifier output reads at the Marysville Terminal on a monthly basis with no less than 28 consecutive days between reads. A copy of the data should be mailed to the CCS office at H71 Warren Service Center. A copy of the data and this report should also be filed at the facility for review by an MDEQ representative, when requested.

Noted by:


James L. Brown

Supervising Engineer

Asset Optimization - Engineering - Performance Services

Attachments - Datasheets & Inspection Forms

cc: S. Down
W. T. Howard
J. Neruda
E. F. Paquette

File: ARMOT2012-AST's

	A	B	C	D
55				
56				
57		Main FOAST (Total CP current - Amps) (Est. CR at 1mA/sq-ft = 70.7A)	11.28	12.72
58		Metering FOAST (Total CP current - Amps) (Est. CR at 1mA/sq-ft = 9.51A)	3.70	4.32
59		Cutter FOAST (Total CP current - Amps) (Est. CR at 1mA/sq-ft = 2.83A)	1.46	1.71
60				
61		Main FOAST (Estimated CR for 70686 Sq. Ft.) (Est. CR at 1mA/sq-ft = 70.7A) mA	0.159579	0.179951
62		Metering FOAST (Estimated CR for 9504 Sq.Ft.) (Est. CR at 1mA/sq-ft = 9.51A) mA	0.38931	0.454545
63		Cutter FOAST (Estimated CR for 2828 Sq.Ft.) (Est. CR at 1mA/sq-ft = 2.83A) mA	0.516266	0.604668
64				

[illegible]

	LOCATION: MARYSVILLE OIL TERMINAL	YEAR:	4/18/2012			
	PCFILE: SMOT.XLS					
	DATA SHEET: E	POTENTIALS (NEG. VOLTS *)				
SITE NO.		STATIC OFF	ON	IO	POLAR	
	1/2 CELL LOCATION					
2	Main NE Ref Tube	RCV=	-0.018	Tube Unglued		
3	0'	0.545	1.231	0.885	0.358	
4	10'	0.548	1.234	0.891	0.361	
5	20'	0.549	1.233	0.900	0.369	
6	30'	0.546	1.239	0.904	0.376	
7	40'	0.543	1.247	0.904	0.379	
8	50'	0.539	1.277	0.915	0.394	
9	60'	0.534	1.304	0.920	0.404	
10	70'	0.525	1.338	0.923	0.416	
11	80'	0.514	1.384	0.932	0.436	
12	90'	0.495	1.449	0.934	0.457	
13	100'	0.463	1.528	0.931	0.486	
14	110'	0.430	1.670	0.925	0.513	
15	120'	0.421	2.004	1.003	0.600	
16	130'	0.453	2.987	1.313	0.878	
17	140'	0.450	3.454	1.310	0.878	
18	150'	0.429	1.591	0.856	0.445	
19	Main NW Ref Tube	RCV=	-0.239			
20	0'	0.532	1.085	0.740	0.447	
21	10'	0.533	1.085	0.748	0.454	
22	20'	0.534	1.085	0.760	0.465	
23	30'	0.533	1.087	0.755	0.461	
24	40'	0.532	1.092	0.764	0.471	
25	50'	0.530	1.101	0.758	0.467	
26	60'	0.527	1.118	0.773	0.485	
27	70'	0.522	1.143	0.762	0.479	
28	80'	0.514	1.185	0.751	0.476	
29	90'	0.501	1.234	0.756	0.494	
30	100'	0.479	1.314	0.755	0.515	
31	110'	0.460	1.444	0.756	0.535	
32	120'	0.458	1.672	0.779	0.560	
33	130'	0.476	1.935	0.794	0.557	
34	140'	0.491	2.225	0.860	0.608	
35	150'	0.429	2.770	0.913	0.723	
	* All structure-to-soil reads are negative with respect to a Copper-Copper Sulfate Reference Electrode					

[illegible]

	LOCATION: MARYSVILLE OIL TERMINAL	YEAR: 4/18/2012			
	PCFILE: SMOT.XLS				
	DATA SHEET: G	POTENTIALS (NEG. VOLTS *)			
SITE NO.					
		STATIC OFF	ON	IO	POLAR
	1/2 CELL LOCATION				
70	Metering NE Ref Tube	RCV=	-0.171		
71	0'	0.599	1.088	0.670	0.242
72	10'	0.580	1.107	0.696	0.287
73	20'	0.552	1.152	0.722	0.341
74	30'	0.525	1.215	0.739	0.385
75	40'	0.524	1.349	0.775	0.422
76	50'	0.587	1.631	0.870	0.454
77	60'	0.560	2.017	0.881	0.492
78	65'	0.538	1.967	0.862	0.495
79	Metering NW Ref Tube	RCV=	-0.058		
80	0'	0.546	1.036	0.585	0.097
81	10'	0.561	1.094	0.640	0.137
82	20'	0.536	1.203	0.674	0.196
83	30'	0.514	1.369	0.727	0.271
84	40'	0.572	1.663	0.860	0.346
85	50'	0.584	1.947	0.904	0.378
86	60'	0.522	1.714	0.820	0.356
87	65'	0.534	1.152	0.645	0.169
88	Metering SE Ref Tube	RCV=	-0.032		
89	0'	0.555	1.117	0.800	0.277
90	10'	0.557	1.159	0.733	0.208
91	20'	0.546	1.275	0.775	0.261
92	30'	0.529	1.442	0.856	0.359
93	40'	0.560	1.735	0.915	0.387
94	50'	0.614	2.198	1.033	0.451
95	60'	0.603	2.716	1.019	0.448
96	65'	0.605	2.712	1.019	0.446
97	Metering SW Ref Tube	RCV=	-0.028		
98	0'	0.484	1.115	0.667	0.211
99	10'	0.480	1.145	0.680	0.228
100	20'	0.465	1.257	0.733	0.296
101	30'	0.444	1.433	0.842	0.426
102	40'	0.473	1.697	0.892	0.447
103	50'	0.535	1.961	0.934	0.427
104	60'	0.552	1.941	0.930	0.406
105	65'	0.493	1.784	0.852	0.387
106	Cutter SE Ref Tube	RCV=	-0.106		
107	0'	0.477	1.643	0.742	0.371
108	10'	0.447	1.439	0.806	0.465
109	20'	0.450	1.335	0.665	0.321
110	30'	0.463	1.315	0.670	0.313
111	40'	0.461	1.317	0.667	0.312
112	50'	0.489	1.347	0.673	0.290
113	60'	0.544	1.417	0.681	0.243
114	70'	0.569	1.429	0.804	0.341
	* All structure-to-soil reads are negative with respect to a Copper-Copper Sulfate Reference Electrode				

AST Cathodic Protection System – Annual Inspection Report Form

Date: 4-20-2012 Location (circle one): GEC HBPP MPR MOT SCPP FERM NE SUPR TCPP

Tank Description: Main Tank

Inspected/Tested by: MSG

Reference Cell Validations *: -0.018 - NE (DMM negative terminal connected to Standard
-0.239 - NW copper-copper sulfate electrode)
-0.003 - SE
-0.078 - SW

Tank Product Level: 0.0 (ft)

Inspection Item	Satisfactory	Unsatisfactory Comments
Rectifier Enclosure	X	
AC Feed Components	X	
DC Output	X	
Rectifier Taps	X	
Meter(s)	X	
Meter Switch(s)	X	
Shunt	X	
DC Fuses/Breakers	X	
Rect. Enclosure Ground	X	
JB Enclosure	X	
Panel Condition	X	
Shunts	X	
Connections	X	
Resistor(s)		
JB Enclosure Ground	X	
Tank Negative Return	X	
Tank Reference Electrode(s)	X	

Problems Detected, Modifications Implemented and Condition Status:

NE ¾ inch Reference Cell Tube has one un-glued joint.

* Each tank electrode needs to be validated

BLS
11-12-2012

AST Cathodic Protection System – Annual Inspection Report Form

Date: 4-20-2012 Location (circle one): GEC HBPP MPP MOT SCPP FERM NE SUPR TCPP

Tank Description: Metering Tank Inspected/Tested by: MSG

Reference Cell Validations *: -0.171 - NE
-0.058 - NW
-0.032 - SE
-0.028 - SW
 (DMM negative terminal connected to Standard copper-copper sulfate electrode)

Tank Product Level: 0.0 (ft)

Inspection Item	Satisfactory	Unsatisfactory Comments
Rectifier Enclosure	X	
AC Feed Components	X	
DC Output	X	
Rectifier Taps	X	
Meter(s)	X	
Meter Switch(s)	X	
Shunt	X	
DC Fuses/Breakers	X	
Rect. Enclosure Ground	X	
JB Enclosure	X	
Panel Condition	X	
Shunts	X	
Connections	X	
Resistor(s)		
JB Enclosure Ground	X	
Tank Negative Return	X	
Tank Reference Electrode(s)	X	

Problems Detected, Modifications Implemented and Condition Status:

* Each tank electrode needs to be validated

BLS
11-12-2012

AST Cathodic Protection System – Annual Inspection Report Form

Date: 4-20-2012 Location (circle one): GEC HBPP MPP MOT SCPP FERM NE SUPR TCPP

Tank Description: Cutter Tank Inspected/Tested by: MSG

Reference Cell Validations *: -0.106 (DMM negative terminal connected to Standard
copper-copper sulfate electrode)

Tank Product Level: 0.0 (ft)

Inspection Item	Satisfactory	Unsatisfactory Comments
Rectifier Enclosure	X	
AC Feed Components	X	
DC Output	X	
Rectifier Taps	X	
Meter(s)	X	
Meter Switch(s)	X	
Shunt	X	
DC Fuses/Breakers	X	
Rect. Enclosure Ground	X	
JB Enclosure	X	
Panel Condition	X	
Shunts	X	
Connections	X	
Resistor(s)		
JB Enclosure Ground	X	
Tank Negative Return	X	
Tank Reference Electrode(s)	X	

Problems Detected, Modifications Implemented and Condition Status:

* Each tank electrode needs to be validated

GLS
11-12-2012

91074052

CHANGE OF INFORMATION FORM ABOVEGROUND TANKS ONLY

This information is required under 1941 PA 207, as amended. Any owner who knowingly fails to notify or submits false information shall be subject to a misdemeanor and/or civil penalties not to exceed \$5,000 per day for each tank for which notification is not given or for which false information is submitted.


ENTERED (SMK) DEC 17 2013

OWNER NAME DTE Energy Company		LOCATION NAME OR SITE IDENTIFIER Marysville Power Plant Storage Tank Terminal	FACILITY ID NUMBER
OWNER ADDRESS 2000 Second Avenue, Detroit, MI 48226		FACILITY STREET ADDRESS (P.O. BOX NOT ACCEPTABLE) 301 Gratiot Avenue, Marysville, MI, 4040	
CITY Detroit	CITY Marysville	ZIP CODE 48040	
STATE MI	ZIP CODE 48226	AREA CODE & TELEPHONE NUMBER 810-235-6524 (James Rachwal)	
AREA CODE & TELEPHONE NUMBER 313-235-6224		CONTACT PERSON (AT LOCATION) 810-388-1577 (Site Operations)	
TYPE OF FACILITY <input checked="" type="checkbox"/> Flammable or Combustible Liquids Storage <input type="checkbox"/> Liquefied Petroleum Gas Storage <input type="checkbox"/> Compressed Natural Gas <input type="checkbox"/> Hydrogen Storage		TYPE OF REPORT <input type="checkbox"/> New Owner <input type="checkbox"/> Closure of Facility (All Storage) <input checked="" type="checkbox"/> Closure of Tanks <input type="checkbox"/> Tank(s) Returned to Service	

TANKS OUT-OF-USE OR CHANGE-IN-SERVICE

TANK IDENTIFICATION NUMBER	TANK # 1	TANK # 2	TANK #	TANK #	TANK #
CAPACITY OF TANK	2.7 MG	0.675 MG			
PRODUCT STORED	#2, #6, Used Oil	#2 Oil			
INSERT DATE IN ALL BOXES THAT APPLY					
A. DATE TANK WAS REMOVED FROM PREMISES					
B. DATE TANK WAS EMPTIED AND CLEANED	11/30/07	11/30/07			
C. DATE PIPING TO TANK WAS DISCONNECTED	11/17/10	11/17/10			
D. DATE TANK WAS CHANGED TO NONREGULATED SUBSTANCE					
E. DATE TANK WAS RETURNED TO REGULATED STORAGE					
F. DATE TANK UPGRADE REQUIREMENTS WERE MET (FL/CL)					

CERTIFICATION
(Read and Sign After Completing ALL Sections)

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS, AND THAT BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE.		
Name & Official Title of Owner/Owner's Authorized Representative (PRINT) STEVEN C. DOWN PRINCIPAL ENGINEER	Signature 	Date 1/14/2013
COMMENTS AND/OR CLARIFICATION DTE Energy requests that these tanks be de-registered with MDQQ Storage Tank Division		

MAIL TO:

Department of Licensing and Regulatory Affairs
Bureau of Fire Services, Storage Tank Division
P.O. Box 30700, Lansing, Michigan 48909

OVERNIGHT MAIL TO:

Department of Licensing and Regulatory Affairs
Bureau of Fire Services, Storage Tank Division
525 W. Allegan Street, 4TH Floor, Lansing, Michigan 48933



STATE OF MICHIGAN
LICENSING AND REGULATORY AFFAIRS
BUREAU OF FIRE SERVICES STORAGE TANK DIVISION
FACILITY INSPECTION REPORT

Owner Name & Address:

Commercial Development Corp
1650 Des Peres
St Louis, MO 63131

Location of Tanks:

Commercial Development Corp
298 Gratiot Blvd
Marysville, MI 48040
County - St Clair
Facility ID - 81084584

ATTENTION: Jack Toles JAKE104@ATT.NET

A Triennial Inspection was conducted on July 15, 2016, for the above-referenced facility for compliance with The Michigan Fire Prevention Code, 1941 PA 207, as amended (Act 207), and the applicable sections of the rules for the Storage and Handling of Flammable and Combustible Liquids, 2014 AACCS R 29.5601 et seq. The inspection showed that there was no action taken by the inspector.

As a result of a complaint from Air Quality Inspector Sebastian Kallumal, he was concerned the tanks on this property were not registered and could not be found on the Storage Tank Data Base.

Inspector met Jack Toles on site. This facility was once owned by DTE

There are 3 tanks on the property

Tank #1, 3,000,000 gallons

Tank #2, 288,000 gallons

Tank #3, 800,000 gallons

The tanks once contained bunker fuel (with a flash point in excess of 200 degrees). They have been emptied and cleaned and the piping disconnected and purged since 2001.

The control building no longer has power and the facility is not occupied.

If you have additional questions concerning this matter, please contact me.

Gary M Miles

Gary Miles
Hazardous Materials Storage Inspector
Region 1
PO Box 30033
Lansing, MI 48909
Phone: (586) 289-0816
Fax: (517) 332-1428
Email: milesg@michigan.gov

07-18-2016

Date

Stella

From: Miles, Gary (LARA)
Sent: Friday, July 15, 2016 11:00 AM
To: Konadu, Stella (LARA)
Subject: NRT for an AST

Hi Stella

Please create an NRT number for this facility I have to do a report

Location

Commercial Development Corporation
301 Gratiot Ave. Marysville 48040
Owner Information

Commercial Development Corporation
1650 Des Peres
St. Louis MO 63131

Three tanks on the property
#1 3,000,000 gallons contained bunker oil
#2 288,000 gallons Contained bunker oil
#3 800,000 gallons contained bunker oil

All tanks are currently clean and empty and have been out of service since 2001

Thank you
Gary M Miles
Hazardous Materials Storage Inspector
Storage Tank Division
Region 1
Suite H
P.O. Box 30033
Lansing, MI. 48909
Phone (586) 289-0816
Fax (517) 332 -1428
MilesG@michigan.gov

ATTACHMENT D

Photos



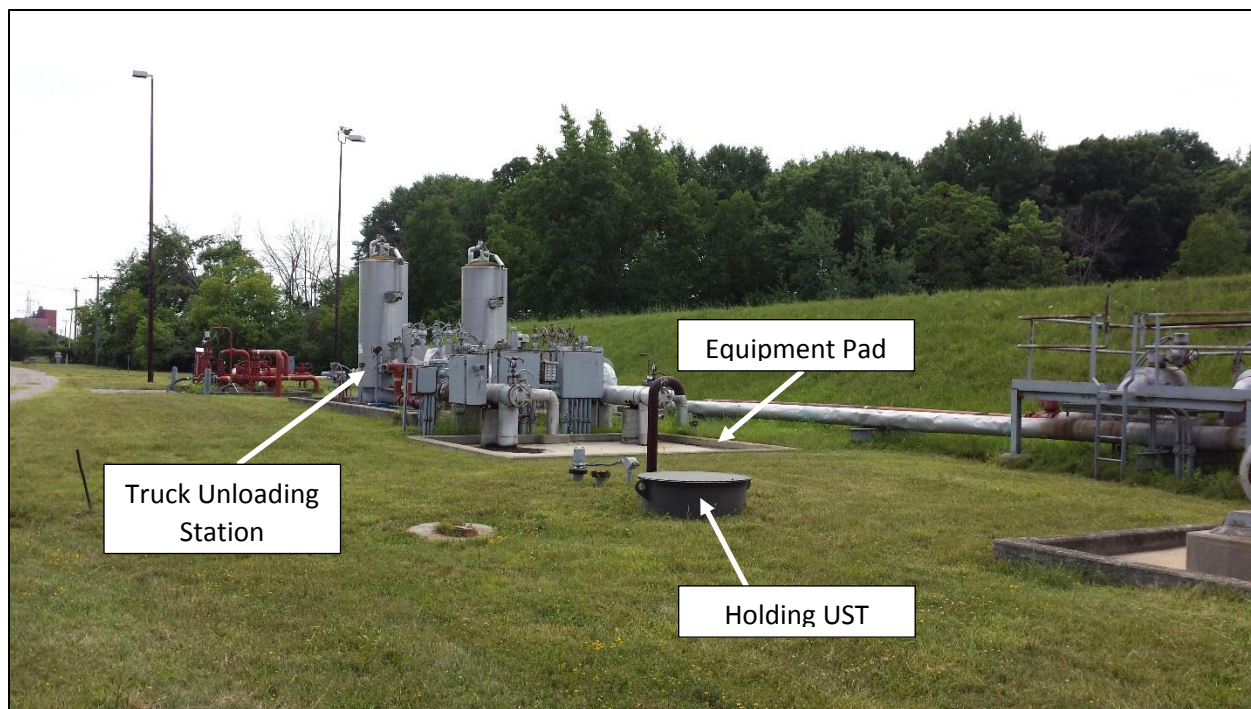


Image 1. Section of above ground piping, including the truck unloading station, equipment pad, and southern holding UST. Looking south.



Image 2. Section of above ground piping, including product pumps and heaters. Looking north.



Image 3. Northern section of AST #1. Looking south.



Image 4. Eastern section of AST #2. Looking west.



Image 5. Southeastern section of AST #3. Looking northwest.



Image 6. Northeastern section of AST #3. Looking northwest.

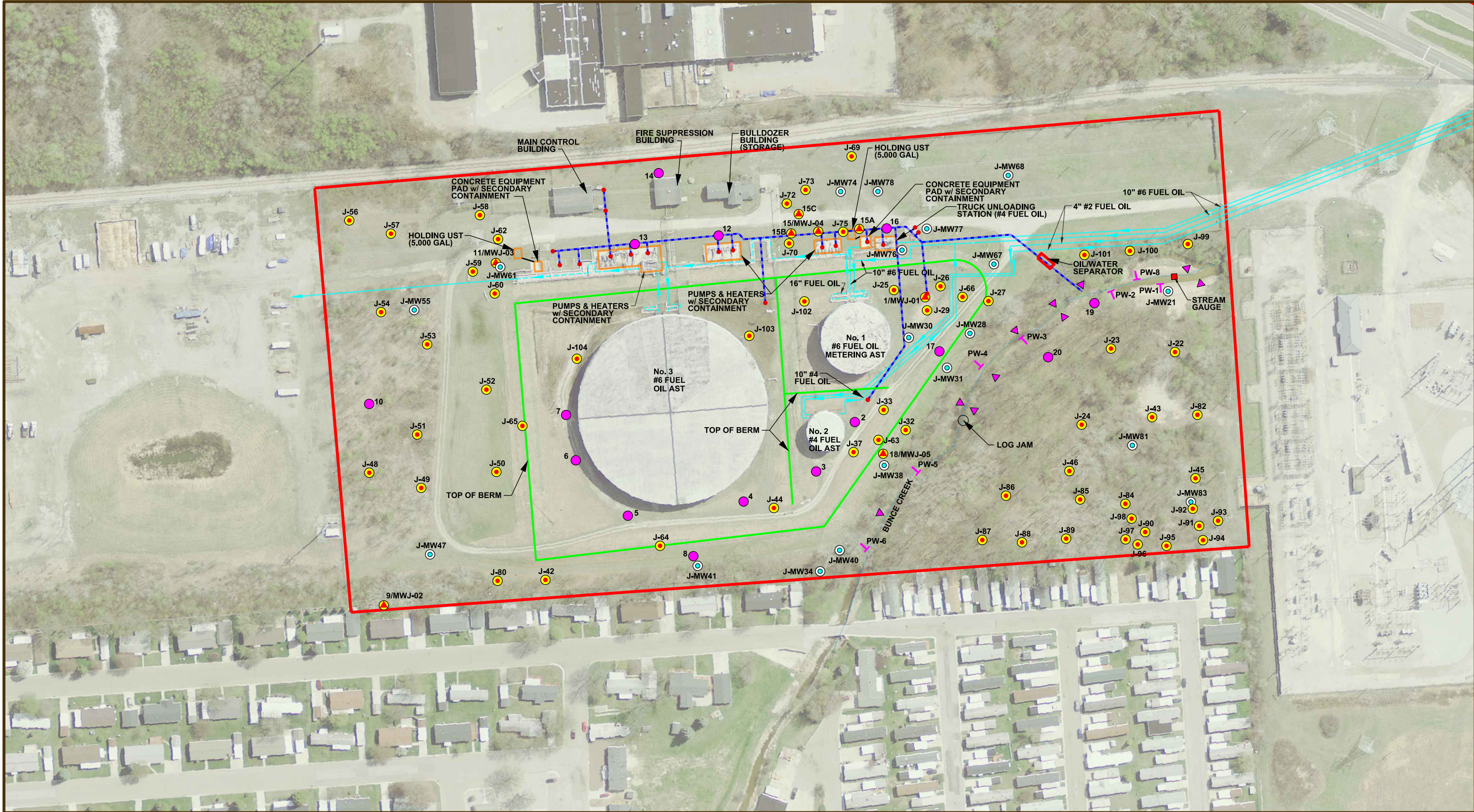
APPENDIX B

FIGURES

*Figure 1: Site Plan with Areas of Interest, Soil Borings,
and Monitoring Well Locations*

Figure 2: NFA Area





150323 Site Plan-Phase II F-001.pdf

LEGEND

- SOIL BORING LOCATION (PHASE II)
- SOIL BORING/TEMPORARY MONITORING WELL LOCATION (PHASE II)
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- PORE WATER SAMPLE
- SECTION OF LOSING STREAM
- APPROXIMATE LOCATION OF PRODUCT PIPING (DASHED WHERE ABOVE GROUND)
- STORM SEWER INLET LOCATION
- STORM SEWER PIPING (APPROXIMATE)

NOTE:
THIS IS NOT A PROPERTY BOUNDARY SURVEY. PROPERTY BOUNDARIES SHOWN ON THIS MAP ARE BASED ON AVAILABLE FURNISHED INFORMATION AND ARE APPROXIMATE ONLY AND SHOULD NOT BE USED TO ESTABLISH PROPERTY BOUNDARY LOCATION IN THE FIELD.

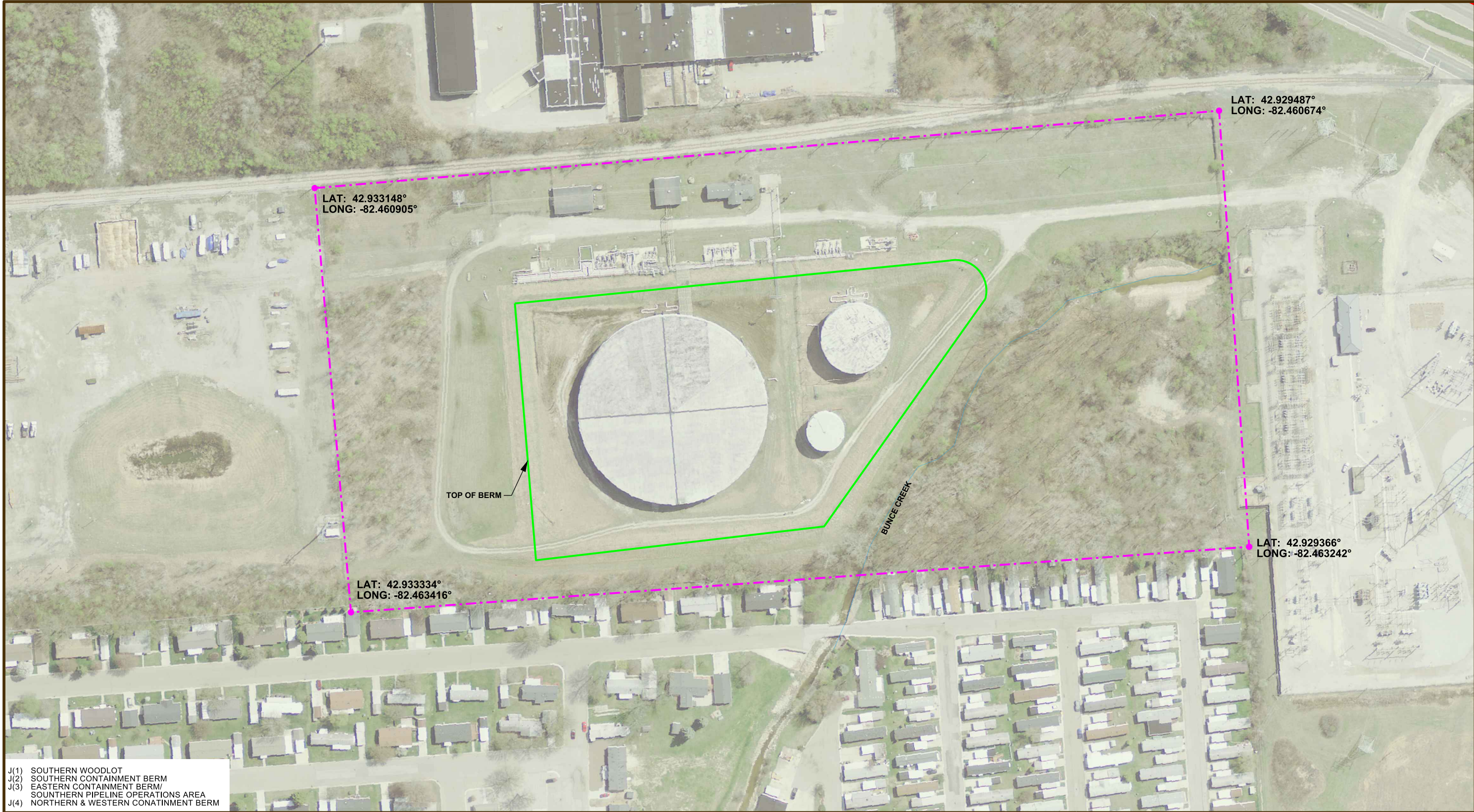
envirollogic
environmental consulting + services
2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49048
PH: (269) 342-1100 FAX: (269) 342-4945

GREENWOOD OIL TERMINAL
298 GRATIOT BLVD
MARYSVILLE, MI

SITE PLAN WITH SOIL BORINGS AND MONITORING WELL LOCATIONS

PROJECT NO.
150323

FIGURE No.
1

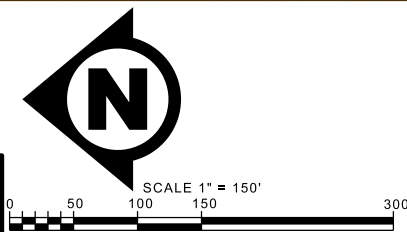


- J(1) SOUTHERN WOODLOT
- J(2) SOUTHERN CONTAINMENT BERM
- J(3) EASTERN CONTAINMENT BERM/
SOUTHERN PIPELINE OPERATIONS AREA
- J(4) NORTHERN & WESTERN CONATINMENT BERM

LEGEND

 BOUNDARY OF NFA AREA

NOTE:
THIS IS NOT A PROPERTY BOUNDARY SURVEY. PROPERTY BOUNDARIES SHOWN ON THIS MAP
ARE BASED ON AVAILABLE FURNISHED INFORMATION AND ARE APPROXIMATE ONLY AND
SHOULD NOT BE USED TO ESTABLISH PROPERTY BOUNDARY LOCATION IN THE FIELD.





envirollogic
environmental consulting + services
2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49048
PH: (269) 342-1100 FAX: (269) 342-4945

**GREENWOOD
OIL TERMINAL**
298 GRATIOT
MARYSVILLE, MI
NFA AREA

PROJECT NO.
150323

FIGURE No.

2

APPENDIX C
BORING LOGS



CLIENT: CDC/170275

LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
			0		TOPSOIL
0					FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to coarse gravel, brick fragments, slag, and concrete, dry.
			5		FILL - clay, brown, soft, medium to high plasticity, with some fine to medium gravel, damp.
0					FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to coarse gravel, bricks, slag, and concrete, dry.
					FILL - clay, gray with brown mottling, soft, high plasticity, with some fine to coarse gravel and slag, damp.
			10		GRAVELLY CLAY - gray, soft, high plasticity, with fine to coarse gravel, some fine to medium sand, damp.
0					CLAY - gray, soft, high plasticity, with some fine to coarse gravel, some fine to medium sand, wet.
			15		TOTAL DEPTH = 15 FEET

ELEVATIONS

SURFACE:

TOP OF CASING:

STATIC WATER LEVEL:

WATER LEVEL AT TIME OF DRILLING: 14

Soil sample collected at 12 - 13 feet.

CLIENT: CDC/170275

LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
			0		TOPSOIL
0					FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to coarse gravel, brick fragments, slag, and concrete, dry.
0			5		
			10		FILL - clay with brown mottling, gray, soft, high plasticity, with some fine to medium gravel, little slag, very damp.
0					FILL - clay, gray, soft, high plasticity, with little slag, very damp.
			15		TOTAL DEPTH = 15 FEET

ELEVATIONS
SURFACE:
TOP OF CASING:
STATIC WATER LEVEL:
WATER LEVEL AT TIME OF DRILLING: NA

Soil sample collected at 7 - 8 feet.

CLIENT: CDC/170275

LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
0			0		TOPSOIL FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to medium gravel and slag, some clay binder, dry. FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to medium gravel, slag, brick fragments, and concrete, dry.
0			5		CLAY - gray with brown mottling, soft, high plasticity, with some fine to medium gravel, damp.
0			10		SAND - brown, fine to medium grained, poorly sorted, with some fine to medium gravel, wet.
			15		CLAY - gray with brown mottling, soft, high plasticity, damp.
					TOTAL DEPTH = 15 FEET

ELEVATIONS

SURFACE:
TOP OF CASING:
STATIC WATER LEVEL:
WATER LEVEL AT TIME OF DRILLING: 10.5

Soil sample collected at 8.5 - 9.5 feet.

CLIENT: CDC/170275

LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
0			0		TOPSOIL
					FILL - gravelly sand, dark brown, fine to medium grained, poorly sorted, with fine to coarse gravel and concrete, dry.
					CLAY - gray with brown mottling, soft, low plasticity, with some fine to coarse gravel, some fine to medium sand, dry.
					SAND - brown, fine to medium grained, well sorted, with little fine gravel, damp.
0			5		SAND - brown, fine to medium grained, well sorted, with some fine to medium gravel, wet.
0			10		SAND - brown, fine to medium grained, well sorted, with some fine to medium gravel, some clay binder, wet.
			15		TOTAL DEPTH = 15 FEET

ELEVATIONS

SURFACE:

TOP OF CASING:

STATIC WATER LEVEL:

WATER LEVEL AT TIME OF DRILLING: 5

Soil sample collected at 2 - 3 feet.

CLIENT: CDC/170275

LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
			0		TOPSOIL
0					FILL - clay, gray with brown mottling, soft, medium plasticity, with little slag, damp.
			5		SAND - brown, fine to medium grained, well sorted, with some fine to medium gravel, damp, wet at 3 feet.
0			10		SANDY CLAY - gray, soft, high plasticity, with fine to medium sand, some fine to coarse gravel, wet. SAND - brown, fine to medium grained, well sorted, with some fine to medium gravel, wet.
0			15		CLAY - gray, soft, high plasticity, with little fine to medium gravel, damp. TOTAL DEPTH = 15 FEET
ELEVATIONS		Soil sample collected at 2 - 3 feet.			
SURFACE:					
TOP OF CASING:					
STATIC WATER LEVEL:					
WATER LEVEL AT TIME OF DRILLING:		3			

CLIENT: CDC/170275






LOCATION: Greenwood Oil Terminal, 298 Gratiot Road, Marysville, MI

DRILLING CO: WMD

START DATE: 09/19/2017

GEOLOGIST: RLW

COMPLETION DATE: 09/19/2017

PID READING	SAMPLING RESISTANCE	SAMPLES	Feet	SYMBOL	DESCRIPTION
			0		TOPSOIL
					FILL - sand, brown, fine to medium grained, poorly sorted, with some slag, some clay binder, some fine to medium gravel, damp.
0					CLAY - grayish brown, soft, medium plasticity, with some fine to medium gravel, some fine to medium sand, damp.
					SAND - brown, fine to medium grained, well sorted, with little fine to medium gravel, trace silt, damp.
			5		
0					SAND - brown, fine to medium grained, well sorted, with little fine to medium gravel, trace silt, wet.
			10		
0					CLAY - gray, soft, high plasticity, with little coarse gravel, damp.
			15		TOTAL DEPTH = 15 FEET

ELEVATIONS

SURFACE:
TOP OF CASING:
STATIC WATER LEVEL:
WATER LEVEL AT TIME OF DRILLING: 5.5

Soil sample collected at 2 - 3 feet.

APPENDIX D

ANALYTICAL DATA TABLES

Table 1A: VOCs (Soil Samples)

Table 1B: PNAs (Soil Samples)

Table 1C: Metals (Soil Samples)

Table 2A: VOCs (Groundwater Samples)

Table 2B: PNAs (Groundwater Samples)

Table 2C: Metals (Groundwater Samples)



Table 1A Greenwood Oil Terminal Summary of VOC Soil Analytical Results	n-propyl- benzene µg/kg	styrene µg/kg	1,1,1,1-tetra- chloroethane µg/kg	1,1,2,2-tetra- chloroethane µg/kg	tetra- chloroethene µg/kg	toluene µg/kg	1,2,4-trichloro- benzene µg/kg	1,1,1-trichloro- ethane µg/kg	1,1,2-trichloro- ethane µg/kg	trichloroethene µg/kg	trichloro- fluoromethane µg/kg	1,2,3-trichloro- propane µg/kg	1,2,3-TMB µg/kg	1,2,4-TMB µg/kg	1,3,5-TMB µg/kg	vinyl chloride µg/kg	xylene s µg/kg
Tier 1 (Non-Residential) Criteria																	
Chemical Abstract Service Number	103651	100425	630206	79345	127184	108883	120821	71556	79005	79016	75694	96184	526738	95636	108678	75014	1330207
Groundwater Surface Water Interface Protection	ID	2,100 (X)	ID	1,600 (X)	1,200 (X)	5,400	5,900 (X)	1,800	6,600 (X)	4,000 (X)	NA	NA	NA	570	1,100	260 (X)	820
Soil Volatilization to Indoor Air Inhalation	ID	1.3E+6 (C)	33,000	23,000	21,000	6.1E+5 (C)	1.8E+7 (C)	4.60E+05	24,000	1,900	5.1E+6(C)	7,500	NA	8.0E+6 (C)	4.8E+6 (C)	2,800	1.2E+7 (C)
Infinite Source Volatile Soil Inhalation	ID	3.30E+06	1.20E+05	34,000	2.10E+05	3.3E+06	3.40E+07	4.50E+06	57,000	14,000	1.10E+08	11,000	NA	2.5E+07	1.9E+07	29,000	5.4E+07
Particulate Soil Inhalation	5.90E+08	6.90E+09	5.30E+08	6.80E+07	1.20E+09	1.2E+10	1.10E+10	2.90E+10	2.50E+08	5.90E+07	1.70E+12	8.80E+06	NA	3.60E+10	3.6E+10	8.90E+08	1.3E+11
Direct Contact	8.00E+06	1.9E+6 (C)	2.2E+6 (C)	2.40E+05	9.3E+5 (C)	1.6E+8 (C)	5.8E+6 (C,DD)	1.0E+9 (C,D)	8.40E+05	6.6E+5 (C,DD)	2.6E+8 (C)	4.2E+6 (C)	NA	1.0E+8 (C)	1.0E+8 (C)	34,000	1.0E+9 (C,D)
Soil Saturation Concentration	1.00E+07	5.20E+05	4.40E+05	8.70E+05	88,000	2.50E+05	1.10E+06	4.60E+05	9.20E+05	5.00E+05	5.60E+05	8.30E+05	NA	1.10E+05	94,000	4.90E+05	1.50E+05
Non-Residential RIASL	NA	NA	NA	NA	19 (M)	16,000	230 (M)	1,900	NA	1.0 (M)	NA	NA	1,200	650	450	2.0 (M)	1,200
Sample ID (Depth) Sample Date: 8/14-9/17																	
J-25@3'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-25@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-26@3'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-26@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-27@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW28@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW28@12'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-29@4.5'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-29@9'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW30@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW30@12'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31@8.5' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31@13.5' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31@20'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-59@3'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-59@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-59@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-60@5' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-60@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-60@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW61@4' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW61@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW61@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-62@4'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-62@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-62@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-70@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-70@13'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-72@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-72@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-73@17'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW74@18' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW74@24'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-75@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-75@15' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-75@22'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW76@9' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW76@16' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	870	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW76@22'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW77@4.5'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW77@17' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW77@24'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW78@20'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-99@12-13'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-100@7-9'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-101@8.5-9.5'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL

Table 1B Greenwood Oil Terminal Summary of PNA Soil Analytical Results	acenaph thene µg/kg	acenaph thylene µg/kg	anthracene µg/kg	benzo(a) anthracene µg/kg	benzo(a) pyrene µg/kg	benzo(b) fluoranthene µg/kg	benzo(ghi) perylene µg/kg	benzo(k) fluoranthene µg/kg	chrysene µg/kg	dibenzo(ah) anchracene µg/kg	fluoranthene µg/kg	fluorene µg/kg	indeno (123- cd) pyrene µg/kg	1-methyl naphthalene µg/kg	2-methyl naphthalene µg/kg	naph- thalene µg/kg	phenan- threne µg/kg	pyrene µg/kg
Tier 1 (Non-Residential) Criteria																		
Chemical Abstract Service Number	83329	208968	120127	56553	50328	205992	191242	207089	218019	53703	206440	86737	193395	90120	91576	91203	85018	129000
Groundwater Surface Water Interface Protection	8,700	ID	ID	NLL	NLL	NLL	NLL	NLL	NLL	NLL	5,500	5,300	NLL	NA	4,200	730	2,100	ID
Soil Volatilization to Indoor Air Inhalation	3.50E+08	3.0E+06	1.0E+9 (D)	NLV	NLV	ID	NLV	NLV	ID	NLV	1.0E+9 (D)	1.0E+9 (D)	NLV	NA	4.9E+06	4.70E+05	5.10E+06	1.0E+9 (D)
Infinite Source Volatile Soil Inhalation	9.70E+07	2.7E+06	1.60E+09	NLV	NLV	ID	NLV	NLV	ID	NLV	8.90E+08	1.50E+08	NLV	NA	1.8E+06	3.50E+05	1.90E+05	7.80E+08
Particulate Soil Inhalation	6.20E+09	1.00E+09	2.90E+10	ID	1.90E+06	ID	3.50E+08	ID	ID	ID	4.10E+09	4.10E+09	ID	NA	2.9E+08	8.8E+07	2.90E+06	2.90E+09
Direct Contact	1.30E+08	5.2E+06	7.3E+08	80,000	8,000	80,000	7.00E+06	8.00E+05	8.00E+06	8,000	1.30E+08	8.70E+07	80,000	NA	2.6E+07	5.2E+07	5.20E+06	8.40E+07
Soil Saturation Concentration	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-Residential RI/ASL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample ID (Depth) Sample Date: 8/14-9/17																		
J-25@3'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-25@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-26@3'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-26@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-27@10'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW28@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW28@12'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-29@4.5'	480	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	550	<RL	--	<RL	<RL	<RL	<RL
J-29@9'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW30@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW30@12'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31@8.5' (▼)	<RL	<RL	<RL	420	<RL	490	<RL	<RL	410	<RL	1,100	<RL	<RL	--	1,500	<RL	1,300	890
J-MW31@13.5' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31@20'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-59@3'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-59@9' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-59@15'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-60@5' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-60@9' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-60@15'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-MW61@4' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-MW61@9' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-MW61@15'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-62@4'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-62@9' (▼)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-62@15'	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<RL	<RL	--	--
J-70@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-70@13'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-72@6' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-72@15'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-73@17'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW74@18' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW74@24'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-75@9' (▼)	<RL	<RL	<RL	330	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	1,100	<RL	680	330
J-75@15' (▼)	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-75@22'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW76@9' (▼)	2,400	<RL	4,700	8,700	8,800	10,000	4,800	3,700	9,200	1,300	22,000	2,500	5,100	--	1,700	<RL	16,000	16,000
J-MW76@16' (▼)	830	400	640	<RL	490	830	490	<RL	<RL	<RL	3,700	1,400	<RL	--	890	<RL	1,600	4,900
J-MW76@22'	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL

Table 1C Greenwood Oil Terminal Summary of Metal Soil Analytical Results		Arsenic µg/kg	Barium µg/kg	Boron µg/kg	Cadmium µg/kg	Chromium µg/kg	Copper µg/kg	Lead µg/kg	Lithium µg/kg	Mercury µg/kg	Selenium µg/kg	Silver µg/kg	Zinc µg/kg	Sulfate µg/kg
Tier 1 (Non-Residential) Criteria														
Chemical Abstract Service Number		7440382	7440393	7440428	7440439	18540299	7440508	7439921	7439932	Varies	7782492	7440224	7440666	14808798
Statewide Default Background Levels		5,800	75,000	NA	1,200	18,000	32,000	21,000	9,800	130	410	1,000	47,000	NA
Typical Range of Data - Upper Values ⁽⁷⁾		22,800	1.72E+05	NA	2,000	55,600	50,600	38,900	37,900	500	1,300	1,400	1.18E+05	NA
Material Specific Background Levels - Sand ⁽⁸⁾		26,300	1.99E+05	NA	2,000	30,400	23,500	24,100	9,600	120	3,900	1,200	85,800	NA
Material Specific Background Levels - Clay ⁽⁹⁾		36,646	2.77E+05	NA	2,900	62,820	48,159	30,341	40,400	630	720	3,100	1.10E+07	NA
Residential Drinking Water Protection		4,600	1.30E+06	10,000	6,000	30,000	5.80E+06	7.00E+05	3,400	1,700	4,000	4,500	2.40E+06	5.00E+06
Groundwater Surface Water Interface Protection		4,600	4.4E+05(G)	1.40E+05 (X)	3,000(G,X)	3,300	75,000(G)	2.5E+06(G,X)	8,800	50 (M); 1.2	400	100 (M); 27	1.7E+05(G)	NA
Soil Volatilization to Indoor Air Inhalation		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	89,000	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62,000	NLV	NLV	NLV	NLV
Particulate Soil Inhalation		9.10E+05	1.50E+08	ID	2.20E+06	2.40E+05	5.90E+07	4.40E+07	1.00E+09	8.80E+06	5.90E+07	2.90E+06	ID	ID
Direct Contact		37,000	1.30E+08	3.50E+08	2.10E+06	9.20E+06	7.30E+07	9.0E+5 (DD)	3.1E+07(DD)	5.80E+05	9.60E+06	9.00E+06	6.30E+08	ID
Sample ID (Depth) Sample Date: 8/14-9/17														
J-MW21@3'		1,700	33,000	--	250	9,400	5,100	6,700	--	<RL	<RL	<RL	32,000	--
J-MW21@10'		9,000	81,000	--	650	18,000	21,000	9,700	--	<RL	680	<RL	80,000	--
J-22@5'		1,100	15,000	--	75	4,200	2,100	2,100	--	<RL	<RL	<RL	29,000	--
J-22@10'		4,800	63,000	--	170	18,000	17,000	7,300	--	<RL	300	<RL	42,000	--
J-23@3'		560	5,900	--	<RL	2,800	1,900	1,900	--	<RL	<RL	<RL	6,600	--
J-23@10'		3,900	74,000	--	76	21,000	17,000	7,400	--	<RL	220	<RL	39,000	--
J-24@1'		12,000	72,000	--	190	5,600	19,000	24,000	--	97	2,300	<RL	27,000	--
J-24@4'		1,500	26,000	--	<RL	6,500	4,600	3,900	--	<RL	310	<RL	14,000	--
J-24@12'		5,800	75,000	--	170	20,000	18,000	7,800	--	<RL	310	<RL	45,000	--
J-25@3'		5,500	70,000	--	250	18,000	16,000	8,100	--	<RL	260	<RL	45,000	--
J-25@10'		6,500	74,000	--	270	15,000	20,000	11,000	--	<RL	380	<RL	55,000	--
J-26@3'		4,900	56,000	--	110	10,000	11,000	7,200	--	<RL	460	<RL	37,000	--
J-26@10'		2,300	81,000	--	110	19,000	17,000	6,800	--	<RL	200	<RL	40,000	--
J-27@10'		5,100	67,000	--	210	20,000	19,000	8,000	--	<RL	2,700	<RL	53,000	--
J-MW28@6' (▼)		570	5,900	--	<RL	2,500	2,000	<RL	--	<RL	<RL	<RL	10,000	--
J-MW28@12'		5,100	54,000	--	280	14,000	19,000	9,800	--	<RL	330	<RL	56,000	--
J-29@4.5'		2,100	60,000	--	560	12,000	15,000	7,700	--	<RL	260	<RL	74,000	--
J-29@9'		6,000	68,000	--	220	18,000	18,000	7,600	--	<RL	540	<RL	46,000	--
J-MW30@6' (▼)		4,400	26,000	--	280	3,400	4,400	2,600	--	<RL	620	<RL	61,000	--
J-MW30@12'		4,700	110,000	--	190	22,000	21,000	8,600	--	<RL	<RL	<RL	51,000	--
J-MW31@8.5' (▼)		18,000	70,000	--	390	16,000	70,000	54,000	--	80	3,800	<RL	140,000	--
J-MW31@13.5' (▼)		4,200	55,000	--	390	11,000	20,000	7,400	--	<RL	420	<RL	61,000	--
J-MW31@20'		10,000	75,000	--	600	18,000	21,000	10,000	--	<RL	710	<RL	73,000	--
J-32@7.5'		4,700	54,000	--	460	13,000	9,200	8,700	--	<RL	2,400	<RL	55,000	--
J-32@14'		5,200	33,000	--	260	14,000	20,000	11,000	--	<RL	290	<RL	57,000	--
J-33@1'		4,700	98,000	--	110	24,000	17,000	8,300	--	<RL	350	<RL	52,000	--
J-33@9' (▼)		110,000	380,000	--	300	14,000	40,000	16,000	--	410	4,900	<RL	17,000	--
J-33@15'		5,400	130,000	--	200	20,000	18,000	7,200	--	<RL	310	<RL	46,000	--
J-37@1'		4,500	72,000	--	170	14,000	16,000	8,900	--	<RL	290	<RL	80,000	--
J-37@8' (▼)		91,000	440,000	--	240	11,000	43,000	14,000	--	500	12,000	<RL	14,000	--
J-37@12.5' (▼)		6,700	86,000	--	180	17,000	17,000	7,400	--	<RL	530	<RL	45,000	--
J-37@18.5'		12,000	53,000	--	610	15,000	23,000	11,000	--	<RL	890	<RL	72,000	--
J-MW38@9' (▼)		93,000	450,000	--	280	9,200	35,000	13,000	--	490	3,900	<RL	17,000	--
J-MW38@14' (▼)		10,000	55,000	--	160	4,800	3,400	3,200	--	<RL	5,900	<RL	29,000	--
J-MW38@20'		7,300	51,000	--	500	16,000	21,000	9,900	--	<RL	720	<RL	67,000	--
J-MW40@5'		6,700	330,000	--	180	23,000	20,000	9,600	--	<RL	450	<RL	55,000	--
J-MW40@9' (▼)		150,000	240,000	--	<RL	5,400	24,000	8,500	--	190	9,300	<RL	7,400	--
J-MW40@15'		6,600	85,000	--	180	17,000	21,000	11,000	--	<RL	320	<RL	61,000	--
J-MW41@4'		3,800	71,000	--	150	18,000	17,000	7,300	--	<RL	260	<RL	41,000	--

Table 1C Greenwood Oil Terminal Summary of Metal Soil Analytical Results	Arsenic µg/kg	Barium µg/kg	Boron µg/kg	Cadmium µg/kg	Chromium µg/kg	Copper µg/kg	Lead µg/kg	Lithium µg/kg	Mercury µg/kg	Selenium µg/kg	Silver µg/kg	Zinc µg/kg	Sulfate µg/kg
Tier 1 (Non-Residential) Criteria													
Chemical Abstract Service Number	7440382	7440393	7440428	7440439	18540299	7440508	7439921	7439932	Varies	7782492	7440224	7440666	14808798
Statewide Default Background Levels	5,800	75,000	NA	1,200	18,000	32,000	21,000	9,800	130	410	1,000	47,000	NA
Typical Range of Data - Upper Values ⁽⁷⁾	22,800	1.72E+05	NA	2,000	55,600	50,600	38,900	37,900	500	1,300	1,400	1.18E+05	NA
Material Specific Background Levels - Sand ⁽⁸⁾	26,300	1.99E+05	NA	2,000	30,400	23,500	24,100	9,600	120	3,900	1,200	85,800	NA
Material Specific Background Levels - Clay ⁽⁹⁾	36,646	2.77E+05	NA	2,900	62,820	48,159	30,341	40,400	630	720	3,100	1.10E+07	NA
Residential Drinking Water Protection	4,600	1.30E+06	10,000	6,000	30,000	5.80E+06	7.00E+05	3,400	1,700	4,000	4,500	2.40E+06	5.00E+06
Groundwater Surface Water Interface Protection	4,600	4.4E+05(G)	1.40E+05 (X)	3,000(G,X)	3,300	75,000(G)	2.5E+06(G,X)	8,800	50 (M); 1.2	400	100 (M); 27	1.7E+05(G)	NA
Soil Volatilization to Indoor Air Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	89,000	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62,000	NLV	NLV	NLV	NLV
Particulate Soil Inhalation	9.10E+05	1.50E+08	ID	2.20E+06	2.40E+05	5.90E+07	4.40E+07	1.00E+09	8.80E+06	5.90E+07	2.90E+06	ID	ID
Direct Contact	37,000	1.30E+08	3.50E+08	2.10E+06	9.20E+06	7.30E+07	9.0E+5 (DD)	3.1E+07(DD)	5.80E+05	9.60E+06	9.00E+06	6.30E+08	ID
J-MW41@9' (▼)	2,100	34,000	--	300	7,400	9,100	5,000	--	<RL	210	<RL	27,000	--
J-MW41@13'	7,300	71,000	--	260	16,000	22,000	11,000	--	<RL	370	<RL	61,000	--
J-42@3'	6,700	72,000	--	180	14,000	17,000	11,000	--	<RL	370	<RL	43,000	--
J-42@8'	5,800	86,000	--	230	18,000	18,000	7,600	--	<RL	310	<RL	46,000	--
J-43@2'	25,000	140,000	--	<RL	3,700	20,000	10,000	--	84	820	<RL	5,400	--
J-43@7'	2,000	52,000	--	63	12,000	13,000	5,300	--	51	290	<RL	40,000	--
J-44@3'	1,900	9,900	--	92	4,800	4,800	7,600	--	<RL	<RL	<RL	16,000	--
J-44@8'	2,200	25,000	--	110	4,100	3,500	3,700	--	<RL	<RL	<RL	14,000	--
J-44@15'	4,000	85,000	--	250	20,000	18,000	7,400	--	<RL	860	<RL	49,000	--
J-45@0.5'	11,000	210,000	--	<RL	2,000	10,000	8,100	--	200	2,500	<RL	1,700	--
J-45@3'	15,000	180,000	--	<RL	3,000	13,000	7,300	--	160	4,100	<RL	1,700	--
J-45@6'	4,400	11,000	--	<RL	1,900	1,000	<RL	--	<RL	370	<RL	3,500	--
J-46@2'	5,100	43,000	--	130	4,900	18,000	15,000	--	59	1,000	<RL	15,000	--
J-46@5.5'	769	6,100	--	<RL	5,200	2,800	1,300	--	<RL	<RL	<RL	5,800	--
J-MW47@6.5' (▼)	710	11,000	--	160	3,800	3,000	1,900	--	<RL	210	<RL	11,000	--
J-MW47@13'	4,700	71,000	--	230	19,000	17,000	7,000	--	<RL	380	<RL	45,000	--
J-48@4' (▼)	1,600	12,000	--	<RL	3,800	1,000	1,300	--	<RL	<RL	<RL	42,000	--
J-48@10'	7,200	67,000	--	210	19,000	17,000	6,800	--	<RL	220	<RL	45,000	--
J-49@5' (▼)	1,500	15,000	--	<RL	3,300	2,900	1,400	--	<RL	<RL	<RL	17,000	--
J-49@10'	11,000	66,000	--	190	19,000	18,000	6,600	--	<RL	<RL	<RL	43,000	--
J-50@5' (▼)	5,600	63,000	--	210	20,000	18,000	7,000	--	<RL	350	<RL	48,000	--
J-50@10'	11,000	31,000	--	<RL	4,900	2,300	1,600	--	<RL	<RL	<RL	8,500	--
J-51@4' (▼)	6,500	19,000	--	270	6,500	<RL	1,400	--	<RL	<RL	<RL	14,000	--
J-51@10'	4,000	65,000	--	180	18,000	17,000	6,400	--	<RL	350	<RL	45,000	--
J-52@3' (▼)	21,000	54,000	--	<RL	9,800	18,000	6,100	--	57	9,700	<RL	10,000	--
J-52@6' (▼)	1,400	8,700	--	<RL	1,600	<RL	<RL	--	<RL	310	<RL	3,300	--
J-52@12.5'	6,000	74,000	--	220	18,000	17,000	6,900	--	<RL	360	<RL	51,000	--
J-53@2.5'	11,000	7,000	--	<RL	2,200	1,800	1,000	--	<RL	400	<RL	4,200	--
J-53@7' (▼)	890	6,700	--	<RL	2,000	1,600	<RL	--	<RL	<RL	<RL	13,000	--
J-53@14'	4,500	73,000	--	180	18,000	16,000	6,200	--	<RL	240	<RL	41,000	--
J-54@3'	1,100	8,200	--	<RL	3,600	2,500	<RL	--	<RL	<RL	<RL	5,300	--
J-54@7.5' (▼)	390	8,800	--	<RL	1,900	1,700	<RL	--	<RL	<RL	<RL	9,200	--
J-54@15'	4,000	67,000	--	180	18,000	17,000	6,400	--	<RL	260	<RL	43,000	--
J-MW55@3.5'	1,700	14,000	--	<RL	4,300	2,100	1,700	--	<RL	<RL	<RL	5,700	--
J-MW55@8' (▼)	1,100	5,300	--	<RL	2,000	1,500	<RL	--	<RL	<RL	<RL	7,200	--
J-MW55@15'	4,100	100,000	--	110	21,000	18,000	7,400	--	<RL	280	<RL	46,000	--
J-56@3'	<RL	4,200	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	1,000	--
J-56@7.5' (▼)	470	9,000	--	<RL	2,400	2,600	1,200	--	<RL	<RL	<RL	9,600	--
J-56@18'	4,400	76,000	--	200	18,000	17,000	6,500	--	<RL	230	<RL	46,000	--
J-57@3'	1,100	5,100	--	<RL	3,000	1,400	1,400	--	<RL	<RL	<RL	9,200	--

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Tier 1 (Non-Residential) Criteria													
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Statewide Default Background Levels	5,800	75,000	NA	1,200	18,000	32,000	21,000	9,800	130	410	1,000	47,000	NA
Typical Range of Data - Upper Values ⁽⁷⁾	22,800	1.72E+05	NA	2,000	55,600	50,600	38,900	37,900	500	1,300	1,400	1.18E+05	NA
Material Specific Background Levels - Sand ⁽⁸⁾	26,300	1.99E+05	NA	2,000	30,400	23,500	24,100	9,600	120	3,900	1,200	85,800	NA
Material Specific Background Levels - Clay ⁽⁹⁾	36,646	2.77E+05	NA	2,900	62,820	48,159	30,341	40,400	630	720	3,100	1.10E+07	NA
Residential Drinking Water Protection	4,600	1.30E+06	10,000	6,000	30,000	5.80E+06	7.00E+05	3,400	1,700	4,000	4,500	2.40E+06	5.00E+06
Groundwater Surface Water Interface Protection	4,600	4.4E+05(G)	1.40E+05 (X)	3,000(G,X)	3,300	75,000(G)	2.5E+06(G,X)	8,800	50 (M); 1.2	400	100 (M); 27	1.7E+05(G)	NA
Soil Volatilization to Indoor Air Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	89,000	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62,000	NLV	NLV	NLV	NLV
Particulate Soil Inhalation	9.10E+05	1.50E+08	ID	2.20E+06	2.40E+05	5.90E+07	4.40E+07	1.00E+09	8.80E+06	5.90E+07	2.90E+06	ID	ID
Direct Contact	37,000	1.30E+08	3.50E+08	2.10E+06	9.20E+06	7.30E+07	9.0E+5 (DD)	3.1E+07(DD)	5.80E+05	9.60E+06	9.00E+06	6.30E+08	ID
J-57@8' (▼)	810	12,000	--	<RL	2,500	2,500	1,400	--	<RL	<RL	<RL	8,900	--
J-57@15'	3,500	72,000	--	320	18,000	17,000	6,700	--	<RL	<RL	<RL	47,000	--
J-58@3.5'	4,900	2,900	--	<RL	800	<RL	<RL	--	<RL	<RL	<RL	4,600	--
J-58@8' (▼)	630	11,000	--	58	1,900	3,100	<RL	--	<RL	<RL	<RL	12,000	--
J-58@15'	3,900	71,000	--	140	16,000	19,000	8,900	--	<RL	200	<RL	50,000	--
J-59@3'	3,400	8,300	--	<RL	2,400	1,100	<RL	--	<RL	<RL	<RL	4,600	--
J-59@9' (▼)	1,600	6,900	--	<RL	1,600	1,600	<RL	--	<RL	<RL	<RL	8,800	--
J-59@15'	5,300	74,000	--	220	18,000	17,000	6,700	--	<RL	350	<RL	44,000	--
J-60@5' (▼)	1,700	12,000	--	<RL	4,200	<RL	1,400	--	<RL	<RL	<RL	15,000	--
J-60@9' (▼)	1,600	15,000	--	95	4,400	4,900	2,600	--	<RL	<RL	<RL	16,000	--
J-60@15'	4,800	67,000	--	370	18,000	17,000	6,700	--	<RL	390	<RL	48,000	--
J-MW61@4' (▼)	3,700	8,100	--	100	4,100	7,100	3,500	--	<RL	580	<RL	22,000	--
J-MW61@9' (▼)	1,500	8,000	--	<RL	2,000	2,200	1,100	--	<RL	<RL	<RL	19,000	--
J-MW61@15'	4,400	73,000	--	200	18,000	17,000	6,900	--	<RL	350	<RL	44,000	--
J-62@4'	2,800	19,000	--	420	3,600	8,400	13,000	--	<RL	300	<RL	41,000	--
J-62@9' (▼)	1,800	5,100	--	<RL	2,000	2,000	1,100	--	<RL	<RL	<RL	10,000	--
J-62@15'	4,500	70,000	--	190	18,000	17,000	6,900	--	<RL	360	<RL	46,000	--
J-63@14'	8,900	83,000	--	230	18,000	16,000	20,000	--	<RL	790	<RL	52,000	--
J-63@18' (▼)	150,000	370,000	--	240	11,000	34,000	14,000	--	490	5,900	<RL	27,000	--
J-63@23.5'	6,100	88,000	--	160	20,000	19,000	7,600	--	<RL	220	<RL	44,000	--
J-64@12'	4,100	85,000	--	130	23,000	17,000	8,300	--	<RL	360	<RL	51,000	--
J-64@15' (▼)	750	13,000	--	<RL	3,600	2,000	1,500	--	<RL	<RL	<RL	9,300	--
J-64@19'	5,800	60,000	--	210	18,000	17,000	6,700	--	<RL	<RL	<RL	47,000	--
J-65@11.5'	6,900	120,000	--	120	22,000	16,000	8,000	--	<RL	310	<RL	54,000	--
J-65@16.5' (▼)	1,700	4,300	--	67	2,500	2,700	1,500	--	<RL	<RL	<RL	8,600	--
J-65@19'	5,100	65,000	--	190	17,000	17,000	6,700	--	<RL	300	<RL	43,000	--
J-66@13.5'	5,000	140,000	--	130	23,000	19,000	8,600	--	<RL	300	<RL	52,000	--
J-66@17' (▼)	480	13,000	--	<RL	3,300	2,200	1,900	--	<RL	<RL	<RL	13,000	--
J-66@19.5'	4,600	70,000	--	260	20,000	18,000	7,000	--	<RL	280	<RL	43,000	--
J-70@6' (▼)	360	9,100	--	<RL	2,100	<RL	1,000	2,000	<RL	<RL	<RL	9,600	--
J-70@13'	5,400	77,000	--	160	19,000	17,000	7,500	16,000	<RL	360	<RL	42,000	--
J-72@6' (▼)	3,500	14,000	--	380	4,800	5,000	3,000	4,200	<RL	620	<RL	85,000	--
J-72@15'	9,300	77,000	--	290	18,000	22,000	9,600	16,000	<RL	450	<RL	64,000	--
J-73@17'	6,000	66,000	--	230	15,000	18,000	9,400	14,000	<RL	320	<RL	52,000	--
J-MW74@18' (▼)	1,200	31,000	--	270	6,400	5,500	4,000	4,700	<RL	310	<RL	25,000	--
J-MW74@24'	7,700	72,000	--	480	16,000	21,000	9,400	16,000	<RL	520	<RL	64,000	--
J-75@9' (▼)	7,400	38,000	--	180	4,600	19,000	7,300	2,900	77	7,600	<RL	16,000	--
J-75@15' (▼)	2,000	47,000	--	760	7,500	19,000	10,000	8,300	<RL	320	<RL	78,000	--
J-75@22'	7,800	41,000	--	530	17,000	23,000	11,000	16,000	<RL	660	<RL	68,000	--
J-MW76@9' (▼)	4,800	6,600	--	<RL	3,400	85,000	1,800	19,000	<RL	<RL	<RL	16,000	--

Table 1C Greenwood Oil Terminal Summary of Metal Soil Analytical Results	Arsenic µg/kg	Barium µg/kg	Boron µg/kg	Cadmium µg/kg	Chromium µg/kg	Copper µg/kg	Lead µg/kg	Lithium µg/kg	Mercury µg/kg	Selenium µg/kg	Silver µg/kg	Zinc µg/kg	Sulfate µg/kg
Tier 1 (Non-Residential) Criteria													
Chemical Abstract Service Number	7440382	7440393	7440428	7440439	18540299	7440508	7439921	7439932	Varies	7782492	7440224	7440666	14808798
Statewide Default Background Levels	5,800	75,000	NA	1,200	18,000	32,000	21,000	9,800	130	410	1,000	47,000	NA
Typical Range of Data - Upper Values ⁽⁷⁾	22,800	1.72E+05	NA	2,000	55,600	50,600	38,900	37,900	500	1,300	1,400	1.18E+05	NA
Material Specific Background Levels - Sand ⁽⁸⁾	26,300	1.99E+05	NA	2,000	30,400	23,500	24,100	9,600	120	3,900	1,200	85,800	NA
Material Specific Background Levels - Clay ⁽⁹⁾	36,646	2.77E+05	NA	2,900	62,820	48,159	30,341	40,400	630	720	3,100	1.10E+07	NA
Residential Drinking Water Protection	4,600	1.30E+06	10,000	6,000	30,000	5.80E+06	7.00E+05	3,400	1,700	4,000	4,500	2.40E+06	5.00E+06
Groundwater Surface Water Interface Protection	4,600	4.4E+05(G)	1.40E+05 (X)	3,000(G,X)	3,300	75,000(G)	2.5E+06(G,X)	8,800	50 (M); 1.2	400	100 (M); 27	1.7E+05(G)	NA
Soil Volatilization to Indoor Air Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	89,000	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62,000	NLV	NLV	NLV	NLV
Particulate Soil Inhalation	9.10E+05	1.50E+08	ID	2.20E+06	2.40E+05	5.90E+07	4.40E+07	1.00E+09	8.80E+06	5.90E+07	2.90E+06	ID	ID
Direct Contact	37,000	1.30E+08	3.50E+08	2.10E+06	9.20E+06	7.30E+07	9.0E+5 (DD)	3.1E+07(DD)	5.80E+05	9.60E+06	9.00E+06	6.30E+08	ID
J-91@6'	24,000	68,000	--	<RL	5,700	5,200	3,500	--	<RL	760	<RL	56,000	--
J-91@10'	5,100	60,000	--	190	19,000	17,000	7,700	--	<RL	380	<RL	42,000	--
J-92@0.5'	40,000	--	--	--	--	--	--	--	--	--	--	--	--
J-93@0.5'	23,000	--	--	--	--	--	--	--	--	--	--	--	--
J-94@0.5'	34,000	--	--	--	--	--	--	--	--	--	--	--	--
J-95@0.5'	23,000	--	--	--	--	--	--	--	--	--	--	--	--
J-96@0.5'	1,900	--	--	--	--	--	--	--	--	--	--	--	--
J-97@0.5'	24,000	--	--	--	--	--	--	--	--	--	--	--	--
J-98@0.5'	12,000	--	--	--	--	--	--	--	--	--	--	--	--
J-99@12-13'	12,000	89,000	--	550	21,000	24,000	15,000	--	85	700	<RL	74,000	--
J-100@7-9'	12,000	120,000	--	290	14,000	27,000	40,000	--	350	940	<RL	76,000	--
J-101@8.5-9.5'	8,300	74,000	--	250	25,000	20,000	8,700	--	<RL	220	<RL	50,000	--
J-102@2-3'	5,300	39,000	--	110	5,500	7,600	4,800	--	110	600	<RL	15,000	--
J-103@2-3'	2,100	11,000	--	100	5,400	4,300	2,800	--	<RL	<RL	<RL	23,000	--
J-104@2-3'	6,500	72,000	--	270	19,000	19,000	16,000	--	<RL	340	<RL	240,000	--
Phase II ESA Soil Analytical Data (Sampled: 11/14)													
J-1@0-1'	2,650	75,500	<RL	510	2,570	10,700	7,600	3,600	<RL	<RL	<RL	22,200	--
J-1@3-4'	1,540	63,400	<RL	230	3,910	5,680	6,420	2,800	<RL	<RL	<RL	13,500	114,000
J-2@0-1'	2,790	50,400	<RL	320	3,740	11,700	11,800	2,500	<RL	<RL	<RL	22,500	--
J-2@5-6'	720	8,160	<RL	<RL	24,900	4,270	1,860	<RL	<RL	<RL	<RL	5,780	<RL
J-3@1-2'	420	6,640	<RL	<RL	630	2,300	1,510	<RL	<RL	<RL	<RL	3,770	<RL
J-3@10-11'	1,330	11,900	<RL	<RL	940	2,710	2,270	<RL	<RL	<RL	<RL	4,400	--
J-4@0-1'	3,340	100,000	2,500	<RL	8,330	14,700	9,910	9,700	<RL	<RL	<RL	78,000	--
J-4@3-4'	710	9,530	<RL	<RL	1,100	1,920	1,720	<RL	<RL	<RL	<RL	3,330	63,000
J-5@0-1'	3,040	89,100	3,100	200	5,550	10,400	8,310	5,900	<RL	<RL	<RL	373,000	--
J-5@4-5'	3,590	35,700	2,500	240	3,340	13,000	6,000	3,100	94	<RL	<RL	29,500	<RL
J-6@0-1'	580	3,140	<RL	<RL	<RL	1,430	1,010	<RL	<RL	<RL	<RL	2,890	--
J-6@4-5'	340	5,650	<RL	<RL	500	1,730	1,120	<RL	<RL	<RL	<RL	2,500	<RL
J-7@0-1'	4,440	99,700	3,200	<RL	6,710	13,200	9,260	8,400	<RL	<RL	<RL	27,700	--
J-7@4-5'	530	4,470	<RL	<RL	590	2,180	1,400	<RL	<RL	<RL	<RL	4,330	<RL
J-8@0-1'	8,290	63,000	<RL	230	7,770	20,100	12,000	6,100	52	420	<RL	37,800	--
J-8@4-5'	2,700	44,100	<RL	<RL	3,350	13,400	9,120	2,400	<RL	<RL	<RL	20,400	92,000
J-9@1-2'	2,850	24,100	<RL	<RL	2,330	6,730	10,400	1,000	<RL	<RL	<RL	15,400	<RL
J-9@6-7'	450	23,100	<RL	<RL	2,120	730	1,620	<RL	<RL	<RL	<RL	3,550	94,000
J-10@1-2'	1,570	77,900	<RL	200	4,140	10,200	8,030	3,000	<RL	<RL	<RL	31,700	<RL
J-10@3-4'	880	35,600	<RL	<RL	1,230	3,440	2,970	1,000	<RL	<RL	<RL	5,470	65,000
J-11@1-2'	1,870	21,000	<RL	<RL	2,600	13,500	4,780	<RL	<RL	<RL	<RL	7,310	--
J-11@3-4'	2,080	13,000	<RL	<RL	1,600	4,400	1,600	<RL	<RL	<RL	<RL	1,840	<RL
J-12@1-2'	6,920	42,500	<RL	<RL	2,250	10,500	41,400	<RL	<RL	<RL	<RL	13,500	<RL
J-12@7-8' (▼)	2,200	7,170	<RL	<RL	560	1,560	1,030	1,700	81	<RL	<RL	11,100	<RL
J-13@0-1'	5,510	24,400	<RL	<RL	1,810	8,830	14,000	<RL	<RL	520	<RL	9,090	<RL

Table 1C Greenwood Oil Terminal Summary of Metal Soil Analytical Results	Arsenic µg/kg	Barium µg/kg	Boron µg/kg	Cadmium µg/kg	Chromium µg/kg	Copper µg/kg	Lead µg/kg	Lithium µg/kg	Mercury µg/kg	Selenium µg/kg	Silver µg/kg	Zinc µg/kg	Sulfate µg/kg
Tier 1 (Non-Residential) Criteria													
Chemical Abstract Service Number	7440382	7440393	7440428	7440439	18540299	7440508	7439921	7439932	Varies	7782492	7440224	7440666	14808798
Statewide Default Background Levels	5,800	75,000	NA	1,200	18,000	32,000	21,000	9,800	130	410	1,000	47,000	NA
Typical Range of Data - Upper Values ⁽⁷⁾	22,800	1.72E+05	NA	2,000	55,600	50,600	38,900	37,900	500	1,300	1,400	1.18E+05	NA
Material Specific Background Levels - Sand ⁽⁸⁾	26,300	1.99E+05	NA	2,000	30,400	23,500	24,100	9,600	120	3,900	1,200	85,800	NA
Material Specific Background Levels - Clay ⁽⁹⁾	36,646	2.77E+05	NA	2,900	62,820	48,159	30,341	40,400	630	720	3,100	1.10E+07	NA
Residential Drinking Water Protection	4,600	1.30E+06	10,000	6,000	30,000	5.80E+06	7.00E+05	3,400	1,700	4,000	4,500	2.40E+06	5.00E+06
Groundwater Surface Water Interface Protection	4,600	4.4E+05(G)	1.40E+05 (X)	3,000(G,X)	3,300	75,000(G)	2.5E+06(G,X)	8,800	50 (M); 1.2	400	100 (M); 27	1.7E+05(G)	NA
Soil Volatilization to Indoor Air Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	89,000	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62,000	NLV	NLV	NLV	NLV
Particulate Soil Inhalation	9.10E+05	1.50E+08	ID	2.20E+06	2.40E+05	5.90E+07	4.40E+07	1.00E+09	8.80E+06	5.90E+07	2.90E+06	ID	ID
Direct Contact	37,000	1.30E+08	3.50E+08	2.10E+06	9.20E+06	7.30E+07	9.0E+5 (DD)	3.1E+07(DD)	5.80E+05	9.60E+06	9.00E+06	6.30E+08	ID
J-13@3-4'	950	6,770	<RL	<RL	2,140	4,380	1,210	<RL	<RL	<RL	<RL	<RL	<RL
J-14@0-1'	1,390	21,800	<RL	<RL	2,050	9,200	5,240	<RL	<RL	<RL	<RL	8,390	<RL
J-14@7-8' (▼)	3,650	44,440	<RL	<RL	3,970	3,100	2,520	<RL	<RL	<RL	<RL	13,600	66,000
J-15@0-1'	2,310	8,140	2,100	<RL	1,150	4,030	3,150	<RL	<RL	450	<RL	7,760	234,000
J-15@4-5'	88,100	343,000	11,000	<RL	4,330	12,800	8,210	6,000	881	17,800	<RL	9,710	139,000
J-15A@5-6' (▼)	51,100	186,000	5,200	<RL	4,740	23,400	10,000	2,200	385	17,100	<RL	14,500	2.56E+06
J-15B@12-13' (▼)	18,100	28,700	28,000	2,940	3,470	53,500	13,700	150,000	<RL	690	<RL	258,000	<RL
J-15C@9-10'	330	75,600	<RL	220	4,260	9,490	8,000	2,000	<RL	<RL	<RL	19,300	87,000
J-16@0-1'	18,000	84,800	<RL	<RL	2,930	14,400	14,300	2,300	192	550	<RL	24,700	<RL
J-16@3-4'	8,390	64,700	2,500	260	2,740	17,100	19,000	4,100	95	650	<RL	27,300	182,000
J-17@0-1'	8,790	99,000	2,600	420	4,740	31,100	46,900	4,400	114	540	<RL	95,000	311,000
J-17@6-8'	22,800	141,000	8,200	1,040	18,900	138,000	289,000	3,200	1,490	670	2,020	3.13E+06	238,000
J-18@0-1'	6,850	114,000	2,900	200	7,990	22,900	17,200	8,300	274	<RL	<RL	46,300	76,000
J-18@5-6'	134,000	287,000	13,000	<RL	6,290	23,000	7,410	4,300	691	3,240	<RL	12,000	215,000
J-19@0-1'	650	15,900	<RL	<RL	1,820	1,910	3,580	<RL	<RL	<RL	<RL	8,940	<RL
J-19@3-4'	710	14,000	<RL	<RL	930	3,560	1,490	<RL	<RL	<RL	<RL	7,710	530,000
J-20@0-1'	6,140	104,000	3,700	<RL	1,610	8,730	8,260	<RL	450	560	<RL	2,740	111,000
J-20@3-4'	950	52,400	2,200	<RL	960	3,720	3,970	<RL	<RL	<RL	<RL	<RL	110,000
Notes:													
1. All laboratory extractions and analyses were performed within the required period													
2. (<RL) - Indicates parameter not detected above the reporting limit; (-) - Indicates parameter not analyzed; (▼) - Indicates a saturated soil sample													
3. Tier 1 RBSLs from MDEQ-RRD Operational Memorandum #1, December 31, 2013													
4. Results Bolded where detected, Underlined where above Tier 1 Non-Residential RBSLs													
5. (NA) - Indicates Criterion not applicable; (ID) - Indicates that there is insufficient data to develop the criteria; (NLV) - Indicates parameter not likely to volatilize													
6. Criteria from Table 1 of the MDEQ-WHMD Michigan Background Soil Survey, 2015													
7. Criteria from Table 3 of the MDEQ-WHMD Michigan Background Soil Survey, 2015													
8. Criteria from Table 4 of the MDEQ-WHMD Michigan Background Soil Survey, 2015													
9. (G) - Value depends upon pH or hardness of receiving stream; (M) - Calculated criterion is below analytical detection limit, thus defaulting to detection limit;													
(X) - Criteria is not protective of surface water used as a drinking water source; (DD) - Substance causes developmental effects.													

Table 2A Greenwood Oil Terminal Summary of VOC Groundwater Analytical Results		1,2-dichloro- benzene µg/L	1,3-dichloro- benzene µg/L	1,4-dichloro- benzene µg/L	dichlorodi- fluoromethane µg/L	1,1-dichloro- ethane µg/L	1,2-dichloro- ethane µg/L	1,1-dichloro- ethene µg/L	cis-1,2-di- chloroethene µg/L	trans-1,2-di- chloroethene µg/L	1,2-dichloro- propane µg/L	1,3-dichloro- propane µg/L	ethyl- benzene µg/L	ethylene dibromide µg/L	2-hexanone µg/L	isopropyl- benzene µg/L	methylene chloride µg/L	4-methyl- 2-pentanone µg/L	MTBE µg/L
Tier 1 (Non-Residential) Criteria																			
Chemical Abstract Service Number		95501	541731	106467	75718	75343	107062	75354	156592	156605	78875	542756	100414	106934	591786	98828	75092	108101	1634044
Groundwater Surface Water Interface		13	28	17	ID	740	360 (X)	130	620	1,500 (X)	230 (X)	9.0 (X)	18	5.7 (X)	ID	28	1,500 (X)	ID	7,100 (X)
Non-Residential GVIIC		1.6E+5 (S)	41,000	74,000 (S)	3.0E+5 (S)	2.30E+06	59,000	1,300	2.10E+05	2.00E+05	36,000	26,000	1.7E+5 (S)	15,000	8.70E+06	56,000 (S)	1.40E+06	2.0E+7 (S)	4.7E+7 (S)
Water Solubility		1.56E+05	1.11E+05	73,800	3.00E+05	5.06E+06	8.52E+06	2.25E+06	3.50E+06	6.30E+06	2.80E+06	2.80E+06	1.69E+05	4.20E+06	1.60E+07	56,000	1.70E+07	2.00E+07	4.68E+07
Flamability and Explosivity		NA	ID	NA	ID	3.80E+05	2.50E+06	97,000	5.30E+05	2.30E+05	5.50E+05	1.30E+05	43,000	ID	NA	29,000	ID	ID	ID
Non-Residential RIASL		NA	4.2	15	NA	14	NA	45	5.8	78	NA	NA	9.0	NA	NA	NA	490	NA	610
Sample ID (Depth, ft. bgl)		Sample Date																	
J-MW28 (3.0'-8.0')		8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW30 (3.0'-8.0')		8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	6.3	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW31 (7.0'-12.0')		8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW34 (2.0'-7.0')		2-24-16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
J-MW61 (5.0'-10.0')		8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW74 (10.0'-15.0')		8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW76 (12.0'-17.0')		8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	1.6	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW77 (8.0'-13.0')		8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
J-MW78 (10.0'-15.0')		8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Phase II ESA Groundwater Analytical Data																			
J-1 (5.0'-10.0')		11-5-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-2 (5.0'-10.0')		11-6-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-3 (15.0'-20.0')		11-6-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-4 (5.0'-10.0')		11-6-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-5 (5.0'-10.0')		11-7-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-15A (5.0'-10.0')		11-13-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-15B (5.0'-10.0')		11-13-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
J-15C (8.0'-13.0')		11-13-12	--	--	--	--	--	--	--	--	--	--	<RL	--	--	--	--	--	--
Notes:																			
1. All laboratory extractions and analyses were performed within the required period																			
2. (<RL) - Indicates parameter not detected above the reporting limit																			
3. Tier 1 RBSLs from MDEQ-RRD Operational Memorandum #1, December 31, 2013																			
4. (RIASL) - Recommended Interim Action Screening Level for the Volatilization to Indoor Air Pathway - August, 2017																			
5. Results Bolded where detected, Underlined where above Tier 1 Non-Residential RBSLs																			
6. (NA) - Indicates Criterion not applicable; (ID) - Indicates that there is insufficient data to develop the criteria; (--) - Indicates parameter not analyzed																			
7. (A) - Michigan Drinking Water Standard; (D) - Calculated criteria exceeds 100%, thus criterion has been reduced to 100%; (E) - Value represents Aesthetic Drinking Water Value; (M) - Calculated criterion is below analytical detection limit, thus defaulting to detection limit;																			
(S) - Criterion defaults to the hazardous substance-specific water solubility limit; (W) - Trihalomethane concentrations shall be added together to determine compliance with the drinking water standard of 80 ug/L; (X) - Criteria is not protective of surface water used as a drinking water source																			

Table 2A Greenwood Oil Terminal Summary of VOC Groundwater Analytical Results		n-propyl- benzene μg/L	styrene μg/L	1,1,1,1-tetra- chloroethane μg/L	1,1,2,2-tetra- chloroethane μg/L	tetra- chloroethene μg/L	toluene μg/L	1,2,4-trichloro- benzene μg/L	1,1,1-trichloro- ethane μg/L	1,1,2-trichloro- ethane μg/L	trichloroethene μg/L	trichloro- fluoromethane μg/L	1,2,3-trichloro- propane μg/L	1,2,3-TMB μg/L	1,2,4-TMB μg/L	1,3,5-TMB μg/L	vinyl chloride μg/L	xylene μg/L
Tier 1 (Non-Residential) Criteria																		
Chemical Abstract Service Number		103651	100425	630206	79345	127184	108883	120821	71556	79005	79016	75694	96184	526738	95636	108678	75014	1330207
Groundwater Surface Water Interface		ID	80 (X)	ID	78 (X)	60 (X)	270	99 (X)	89	330 (X)	200 (X)	NA	NA	NA	17	45	13 (X)	41
Non-Residential GVIIC		ID	3.1E+5 (S)	96,000	77,000	1.70E+05	5.3E+5 (S)	3.0E+5 (S)	1.3E+6 (S)	1.10E+05	4,900	1.1E+6 (S)	18,000	NA	56,000 (S)	61,000 (S)	13,000	1.9E+5 (S)
Water Solubility		NA	3.10E+05	1.10E+06	2.97E+06	2.00E+05	5.26E+05	3.00E+05	1.33E+06	4.42E+06	1.10E+06	1.10E+06	1.90E+06	NA	55,890	61,150	2.76E+06	186,000
Flamability and Explositivity		ID	1.40E+05	ID	ID	ID	61,000	NA	ID	NA	ID	ID	NA	NA	56,000 (S)	ID	33,000	70,000
Non-Residential RIASL		NA	NA	NA	NA	4.4	850	5.8	750	NA	0.2 (M)	NA	NA	71	44	34	1.8	140
Sample ID (Depth, ft. bgl)	Sample Date																	
J-MW28 (3.0'-8.0')	8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW30 (3.0'-8.0')	8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	1.8	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW31 (7.0'-12.0')	8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW34 (2.0'-7.0')	2-24-16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
J-MW61 (5.0'-10.0')	8-28-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW74 (10.0'-15.0')	8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW76 (12.0'-17.0')	8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW77 (8.0'-13.0')	8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
J-MW78 (10.0'-15.0')	8-29-14	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL
Phase II ESA Groundwater Analytical Data																		
J-1 (5.0'-10.0')	11-5-12	<RL	--	--	--	--	<RL	--	<RL	--	--	--	--	<RL	<RL	<RL	--	<RL
J-2 (5.0'-10.0')	11-6-12	<RL	--	--	--	--	<RL	--	<RL	--	--	--	--	<RL	<RL	<RL	--	<RL
J-3 (15.0'-20.0')	11-6-12	<RL	--	--	--	--	<RL	--	<RL	--	--	--	--	<RL	<RL	<RL	--	<RL
J-4 (5.0'-10.0')	11-6-12	<RL	--	--	--	--	<RL	--	<RL	--	--	--	--	<RL	<RL	<RL	--	<RL
J-5 (5.0'-10.0')	11-7-12	<RL	--	--	--	--	<RL	--	<RL	--	--	--	--	<RL	<RL	<RL	--	<RL
J-15A (5.0'-10.0')	11-13-12	<RL	--	--	--	--	<RL	--	--	--	--	--	--	<RL	<RL	2	--	<RL
J-15B (5.0'-10.0')	11-13-12	<RL	--	--	--	--	<RL	--	--	--	--	--	--	<RL	<RL	<RL	--	<RL
J-15C (8.0'-13.0')	11-13-12	<RL	--	--	--	--	<RL	--	--	--	--	--	--	<RL	<RL	<RL	--	<RL
Notes:																		
1. All laboratory extractions and analyses were performed within the																		

Table 2C Greenwood Oil Terminal Summary of Metals Groundwater/Porewater Analytical Results		Arsenic µg/L	Barium µg/L	Boron µg/L	Cadmium µg/L	Total Chromium µg/L	Copper µg/L	Lead µg/L	Lithium µg/L	Total Mercury µg/L	Selenium µg/L	Silver µg/L	Zinc µg/L	Sulfate µg/L
Tier 1 (Non-Residential) Criteria		7440382	7440393	7440428	7440439	18540299	7440508	7439921	7439932	Varies	7782492	7440224	7440666	14808798
Chemical Abstract Service Number		10	2000	500	5	100	1400	4	170	2 (A)	50	34	2400	NA
Residential Drinking Water (Generic)		10	670 (G)	7,200 (X)	2.5 (G,X)	11	13 (G)	14 (G,X)	440	0.0013	5	0.2 (M); 0.06	170 (G)	NA
Groundwater Surface Water Interface		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV
Non-Residential GVWC		NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA
Water Solubility		ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Flamability and Explosivity		ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Sample ID (Depth, ft. bgl)	Sample Date													
J-MW21 (1.0'-6.0')	8-27-14	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL (0.25)	<RL	--
J-MW28 (3.0'-8.0')	8-28-14	<RL (5.9)	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
	4-13-15	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW30 (3.0'-8.0')	8-28-14	5.1 (5.5)	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
	4-13-15	6.8	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW31 (7.0'-12.0')	8-29-14	11	110	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
	4-13-15	7.4	100	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW34 (2.0'-7.0')	2-24-16	<RL	--	--	--	--	--	--	--	--	--	--	--	--
J-MW38 (8.0'-13.0')	8-28-14	55 (52)	140	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
	4-13-15	42	110	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW40 (8.0'-13.0')	4-14-15	35	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW41 (5.0'-10.0')	4-14-15	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	6.7	<RL	<RL	--
J-MW47 (3.0'-8.0')	8-27-14	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW55 (5.0'-10.0')	8-27-14	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW61 (5.0'-10.0')	8-28-14	<RL	100	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW67 (5.0'-10.0')	4-14-15	14	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW68 (5.0'-10.0')	4-14-15	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	5.7	<RL	<RL	--
J-MW74 (10.0'-15.0')	8-29-14	170 (150)	160	--	<RL	<RL	<RL	<RL	37 (40)	<RL	<RL	<RL	<RL	--
	4-14-15	200	210	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW76 (12.0'-17.0')	8-29-14	13 (12)	<RL	--	2.5 (<RL)	<RL	<RL	<RL	180	<RL	<RL	<RL	<RL	--
	4-14-15	17	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW77 (8.0'-13.0')	8-29-14	11 (9.9)	<RL	--	<RL	<RL	<RL	15 (<RL)	160 (150)	<RL	<RL	<RL	<RL	--
	4-14-15	9.4	<RL	--	<RL	<RL	<RL	5.6	--	<RL	<RL	<RL	<RL	--
J-MW78 (10.0'-15.0')	8-29-14	140 (130)	150 (140)	--	<RL	<RL	<RL	<RL	46 (43)	<RL	<RL	<RL	<RL	--
	4-14-15	40	130	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
J-MW81 (3.0'-8.0')	8-27-14	<RL	<RL	--	21 (23)	<RL	47 (38)	<RL	--	<RL	<RL	<RL	1,800 (2,000)	--
J-MW83 (3.0'-8.0')	8-27-14	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	60 (75)	--
PW-1	10-29-14	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
	4-15-15	<RL	<RL	--	<RL	<RL	<RL	<RL	--	<RL	<RL	<RL	<RL	--
PW-2	10-29-14	5.7	110	--	<RL	<RL	<RL	6.7	--	<RL	<RL	<RL	<RL	--
	4-15-15	11	200	--	<RL	<RL	<RL	4.9	--	<RL	<RL	<RL	<RL	--
PW-3	10-29-14	<RL	100	--	<RL	<RL	<RL	7.8	--	<RL	<RL	<RL	62	--
	4-15-15	<RL	120	--	<RL	<RL	<RL	6.1	--	<RL	<RL	<RL	<RL	--
PW-4	10-29-14	5.8	130	--	<RL	<RL	<RL	12	--	<RL	<RL	<RL	62	--
PW-5	4-15-15	<RL	<RL	--	<RL	<RL	5.8	7.6	--	<RL	<RL	<RL	<RL	--
PW-6	4-15-15	5.5	140	--	<RL	10	13	17	--	<RL	<RL	<RL	59	--
PW-8	9-18-17	--	--	--	--	--	--	--	--	<RL	--	--	--	--

APPENDIX E

ANALYTICAL REPORTS





Tuesday, September 26, 2017

Fibertec Project Number: 80828
Project Identification: CDC (170275) /170275
Submittal Date: 09/19/2017

Mr. Derrick Lingle
Envirologic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, MI 49048

Dear Mr. Lingle,

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 10 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,

A handwritten signature in black ink that reads "Emily Kennedy". The signature is fluid and cursive.

By Emily Kennedy at 3:53 PM, Sep 26, 2017

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-104 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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
Method: ASTM D2216-10

Aliquot ID: 80828-002 **Matrix: Soil/Solid**
Description: J-104 (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	09/21/17	MC170921	09/22/17	MC170921	BMG

Michigan 10 Elements by ICP/MS
Method: EPA 0200.2/EPA 6020A

Aliquot ID: 80828-002 **Matrix: Soil/Solid**
Description: J-104 (2-3')

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	09/25/17	PT17125B	09/26/17	T417126A	JLH
2. Barium	72000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
3. Cadmium	270		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
4. Chromium	19000		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
5. Copper	19000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
6. Lead	16000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
7. Selenium	340		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
9. Zinc	240000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH

Mercury by CVAAS
Method: EPA 7471B

Aliquot ID: 80828-002 **Matrix: Soil/Solid**
Description: J-104 (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	09/26/17	PM17126B	09/26/17	M617126B	NRV

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260B

Aliquot ID: 80828-002A **Matrix: Soil/Solid**
Description: J-104 (2-3')

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	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
3. Benzene	U		µg/kg	50	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
7. Bromoform	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
8. Bromomethane	U		µg/kg	290	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB

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F: (231) 775-8584

Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-104 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-002A **Matrix: Soil/Solid**
Description: J-104 (2-3')

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	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
16. Chloroethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
41. MTBE	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
42. Naphthalene	U		µg/kg	360	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
44. Styrene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-104 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-002A **Matrix: Soil/Solid**
Description: J-104 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
48. Toluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
53. Trichlorofluoromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-002 **Matrix: Soil/Solid**
Description: J-104 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	580		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	370		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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Analytical Laboratory Report
Laboratory Project Number: 80828
Laboratory Sample Number: 80828-003

Order: 80828
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Date: 09/26/17

Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-103 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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: 80828-003		Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: J-103 (2-3')					
						Preparation		Analysis			
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)		18		%	1	1.0	09/21/17	MC170921	09/22/17	MC170921	BMC

Michigan 10 Elements by ICP/MS					Aliquot ID: 80828-003	Matrix: Soil/Solid				
Method: EPA 0200.2/EPA 6020A					Description: J-103 (2-3')					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	2100		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
2. Barium	11000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
3. Cadmium	100		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
4. Chromium	5400		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
5. Copper	4300		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
6. Lead	2800		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
7. Selenium	U		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
9. Zinc	23000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH

Mercury by CVAAS						Aliquot ID: 80828-003	Matrix: Soil/Solid			
Method: EPA 7471B						Description: J-103 (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	8.5	09/26/17	PM17126B	09/26/17	M617126B	NRV

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: 80828-003A	Matrix: Soil/Solid				
Method: EPA 5035A/EPA 8260B					Description: J-103 (2-3')					
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	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
3. Benzene	U		µg/kg	50	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
7. Bromoform	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
8. Bromomethane	U		µg/kg	300	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-103 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-003A **Matrix: Soil/Solid**
Description: J-103 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
10. n-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
16. Chloroethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
41. MTBE	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
42. Naphthalene	U		µg/kg	370	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
44. Styrene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-103 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-003A **Matrix: Soil/Solid**
Description: J-103 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
48. Toluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
53. Trichlorofluoromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-003 **Matrix: Soil/Solid**
Description: J-103 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-102 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	10:25
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: 80828-004		Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: J-102 (2-3')					
						Preparation		Analysis			
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)		14		%	1	1.0	09/21/17	MC170921	09/22/17	MC170921	BMC

Michigan 10 Elements by ICP/MS					Aliquot ID: 80828-004		Matrix: Soil/Solid				
Method: EPA 0200.2/EPA 6020A					Description: J-102 (2-3')						
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	09/25/17	PT17125B	09/26/17	T417126A	JLH	
2. Barium	39000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
3. Cadmium	110		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
4. Chromium	5500		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
5. Copper	7600		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
6. Lead	4800		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
7. Selenium	600		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	
9. Zinc	15000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH	

Mercury by CVAAS						Aliquot ID: 80828-004	Matrix: Soil/Solid			
Method: EPA 7471B						Description: J-102 (2-3')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercurv	110		ug/kg	50	9.2	09/26/17	PM17126B	09/26/17	M617126B	NR

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID: 80828-004A		Matrix: Soil/Solid		
Method: EPA 5035A/EPA 8260B						Description: J-102 (2-3')				
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	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
3. Benzene	U		µg/kg	50	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
7. Bromoform	U		µg/kg	100	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
8. Bromomethane	U		µg/kg	270	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VJ17120A	09/20/17	VJ17120A	ANB

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-102 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	10:25
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 8260B

Aliquot ID: 80828-004A **Matrix: Soil/Solid**
Description: J-102 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
10. n-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
16. Chloroethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
41. MTBE	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
42. Naphthalene	U		µg/kg	330	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
44. Styrene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-102 (2-3')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	10:25
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 8260B

Aliquot ID: 80828-004A **Matrix: Soil/Solid**
Description: J-102 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
48. Toluene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
53. Trichlorofluoromethane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VJ17I20A	09/20/17	VJ17I20A	ANB

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-004 **Matrix: Soil/Solid**
Description: J-102 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-101 (8.5-9.5')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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
Method: ASTM D2216-10

Aliquot ID: 80828-005 **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

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	09/21/17	MC170921	09/22/17	MC170921	BMG

Michigan 10 Elements by ICP/MS
Method: EPA 0200.2/EPA 6020A

Aliquot ID: 80828-005 **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8300		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
2. Barium	74000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
3. Cadmium	250		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
4. Chromium	25000		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
5. Copper	20000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
6. Lead	8700		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
7. Selenium	220		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
9. Zinc	50000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH

Mercury by CVAAS
Method: EPA 7471B

Aliquot ID: 80828-005 **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

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	9.3	09/26/17	PM17126B	09/26/17	M617126B	NRV

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260B

Aliquot ID: 80828-005A **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

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	09/20/17	VI17120A	09/20/17	VI17120A	MJP
‡ 2. Acrylonitrile	U		µg/kg	160	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
3. Benzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
7. Bromoform	U		µg/kg	160	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
8. Bromomethane	U		µg/kg	320	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP

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Analytical Laboratory Report
Laboratory Project Number: 80828
Laboratory Sample Number: 80828-005

Order: 80828
Page: 12 of 20
Date: 09/26/17

Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-101 (8.5-9.5')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-005A Matrix: Soil/Solid
Description: J-101 (8.5-9.5')

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	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
16. Chloroethane	U		µg/kg	400	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
26. Dichlorodifluoromethane	U		µg/kg	400	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
32. 1,2-Dichloropropane	U		µg/kg	81	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
41. MTBE	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
42. Naphthalene	U		µg/kg	330	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
44. Styrene	U		µg/kg	81	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-101 (8.5-9.5')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-005A **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
48. Toluene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
53. Trichlorofluoromethane	U		µg/kg	160	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-005 **Matrix: Soil/Solid**
Description: J-101 (8.5-9.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-100 (7-9')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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
Method: ASTM D2216-10

Aliquot ID: 80828-006 **Matrix: Soil/Solid**
Description: J-100 (7-9')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	09/21/17	MC170921	09/22/17	MC170921	BMG

Michigan 10 Elements by ICP/MS
Method: EPA 0200.2/EPA 6020A

Aliquot ID: 80828-006 **Matrix: Soil/Solid**
Description: J-100 (7-9')

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	09/25/17	PT17125B	09/26/17	T417126A	JLH
2. Barium	120000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
3. Cadmium	290		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
4. Chromium	14000		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
5. Copper	27000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
6. Lead	40000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
7. Selenium	940		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
9. Zinc	76000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH

Mercury by CVAAS
Method: EPA 7471B

Aliquot ID: 80828-006 **Matrix: Soil/Solid**
Description: J-100 (7-9')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	350		µg/kg	50	9.5	09/26/17	PM17126B	09/26/17	M617126B	NRV

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260B

Aliquot ID: 80828-006A **Matrix: Soil/Solid**
Description: J-100 (7-9')

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	09/20/17	VI17120A	09/20/17	VI17120A	MJP
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
3. Benzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
7. Bromoform	U		µg/kg	120	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
8. Bromomethane	U		µg/kg	240	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-100 (7-9')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-006A **Matrix: Soil/Solid**
Description: J-100 (7-9')

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	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
16. Chloroethane	U		µg/kg	300	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
26. Dichlorodifluoromethane	U		µg/kg	300	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
32. 1,2-Dichloropropane	U		µg/kg	59	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
41. MTBE	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
42. Naphthalene	U		µg/kg	330	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
44. Styrene	U		µg/kg	59	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-100 (7-9')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	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 8260B

Aliquot ID: 80828-006A **Matrix: Soil/Solid**
Description: J-100 (7-9')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
48. Toluene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
53. Trichlorofluoromethane	U		µg/kg	120	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-006 **Matrix: Soil/Solid**
Description: J-100 (7-9')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	710		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	610		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	810		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	350		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	540		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	1200		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	390		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	840		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	900		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-99 (12-13')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	11:35
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: 80828-007		Matrix: Soil/Solid		
Method: ASTM D2216-10						Description: J-99 (12-13')				
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	09/21/17	MC170921	09/22/17	MC170921	BMG

Michigan 10 Elements by ICP/MS					Aliquot ID: 80828-007	Matrix: Soil/Solid				
Method: EPA 0200.2/EPA 6020A					Description: J-99 (12-13')					
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	09/25/17	PT17125B	09/26/17	T417126A	JLH
2. Barium	89000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
3. Cadmium	550		µg/kg	50	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
4. Chromium	21000		µg/kg	500	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
5. Copper	24000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
6. Lead	15000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
7. Selenium	700		µg/kg	200	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
8. Silver	U		µg/kg	100	20	09/25/17	PT17125B	09/26/17	T417126A	JLH
9. Zinc	74000		µg/kg	1000	20	09/25/17	PT17125B	09/26/17	T417126A	JLH

Mercury by CVAAS						Aliquot ID: 80828-007	Matrix: Soil/Solid			
Method: EPA 7471B						Description: J-99 (12-13')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	85		µg/kg	50	9.1	09/26/17	PM17126B	09/26/17	M617126B	NRV

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: 80828-007A		Matrix: Soil/Solid			
Method: EPA 5035A/EPA 8260B					Description: J-99 (12-13')					
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	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 2. Acrylonitrile	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
3. Benzene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
4. Bromobenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
5. Bromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
6. Bromodichloromethane	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
7. Bromoform	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
8. Bromomethane	U		µg/kg	300	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
9. 2-Butanone	U		µg/kg	750	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-99 (12-13')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	11:35
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 8260B

Aliquot ID: 80828-007A **Matrix: Soil/Solid**
Description: J-99 (12-13')

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	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
13. Carbon Disulfide	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
15. Chlorobenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
16. Chloroethane	U		µg/kg	370	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
17. Chloroform	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
18. Chloromethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
20. Dibromochloromethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
22. Dibromomethane	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
26. Dichlorodifluoromethane	U		µg/kg	370	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
32. 1,2-Dichloropropane	U		µg/kg	74	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
35. Ethylbenzene	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
37. 2-Hexanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
38. Isopropylbenzene	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
39. Methylene Chloride	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
40. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
41. MTBE	U		µg/kg	250	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
42. Naphthalene	U		µg/kg	330	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
43. n-Propylbenzene	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
44. Styrene	U		µg/kg	74	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
45. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP
46. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/20/17	VI17120A	09/20/17	VI17120A	MJP

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Client Identification:	Envirologic Technologies, Inc.	Sample Description:	J-99 (12-13')	Chain of Custody:	156770
Client Project Name:	CDC (170275)	Sample No:		Collect Date:	09/19/17
Client Project No:	170275	Sample Matrix:	Soil/Solid	Collect Time:	11:35
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 8260B

Aliquot ID: 80828-007A **Matrix: Soil/Solid**
Description: J-99 (12-13')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
47. Tetrachloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
48. Toluene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
49. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
50. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
51. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
52. Trichloroethene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
53. Trichlorofluoromethane	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
54. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 55. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
56. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
57. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
58. Vinyl Chloride	U		µg/kg	40	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
59. m&p-Xylene	U		µg/kg	100	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
60. o-Xylene	U		µg/kg	50	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP
‡ 61. Xylenes	U		µg/kg	150	1.0	09/20/17	VI17I20A	09/20/17	VI17I20A	MJP

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270C

Aliquot ID: 80828-007 **Matrix: Soil/Solid**
Description: J-99 (12-13')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
3. Anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
9. Chrysene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
11. Fluoranthene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
12. Fluorene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
15. Phenanthrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP
16. Pyrene (SIM)	U		µg/kg	330	10	09/22/17	PS17I22B	09/23/17	S517I23A	GJP

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F: (810) 220-3311
F: (231) 775-8584

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:



Accreditation Number(s):

T104704518-17-6 (TX)

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Client Name: Envirologic Technologies				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	8260	PNA's (8270)	MI 10 metals (total)	PARAMETERS										Matrix Code		Deliverables	
Contact Person: Derrick Lingle									HOLD SAMPLE	S	Soil	GW	Ground Water									Level 2
Project Name/ Number: CDC/170275										A	Air	SW	Surface Water									Level 3
Email distribution list: dlingle@envirologic.com										O	Oil	WW	Waste Water									Level 4
Quote#										P	Wipe	X	Other: Specify									EDD
Purchase Order# 6665																						
Date	Time	Sample #	Client Sample Descriptor																	Remarks:		
9/18/17	9:15 AM	3:20P	PW-8	W	1																	
9/19/17	9:35A	4 MSN	J-104 @ 2-3'	S	2	+	+	+														
	10:00A	10:00A MSN	J-103 @ 2-3'	S	2	+	+	+														
	10:25A		J-102 @ 2-3'	S	2	+	+	+														
	10:55A		J-101 @ 8 1/2'-9 1/2'	S	2	+	+	+														
	11:15A		J-100 @ 7'-9'	S	2	+	+	+														
	11:35A		J-99 @ 12'-13'	S	2	+	+	+														
Comments: Please copy report to Dave Warwick																						
Please include batch run MS/MSD samples with report.																						
Sampled/Relinquished By: [Signature]				Date/ Time: 9/19/17 14:34				Received By: [Signature]														
Relinquished By:				Date/ Time:				Received By:														
Relinquished By:				Date/ Time:				Received By Laboratory:														
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 X 5-7 bus. days (standard) Other (specify time/date requirement): _____										LAB USE ONLY Fibertec project number: 80828 Temperature upon receipt at Lab: 3.1°C												
Please see back for terms and conditions																						

Quality Control Report
Preparation Batch QC Summary
Cold Vapor Atomic Absorption Spectrometry
Soil/Solid

Batch ID: PM17I26B
Page: 1 of 1
Date: 09/26/17

Preparation Batch: PM17I26B

Preparation Date: 09/26/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result	RL	Q	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
1. Mercury	U	50		187	200	94	85 - 115						MB-5	LCS-5	

Definitions/ Qualifiers:

Run Code (Analysis Sequence/Run Time):

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

MB-5 M617I26B 09/26/17 12:17
LCS-5 M617I26B 09/26/17 12:19

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:06 PM, Sep 26, 2017

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (Semivolatiles)
Soil/Solid

Batch ID: PS17I22B
Page: 1 of 1
Date: 09/26/17

Preparation Batch: PS17I22B

Preparation Date: 09/22/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result µg/kg	RL µg/kg	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Acenaphthene	U	330		3,504	5,333	66	50 - 114						MB-3	LCS-3	
2. Acenaphthylene	U	330		3,406	5,333	64	53 - 115						MB-3	LCS-3	
3. Anthracene	U	330		3,179	5,333	60	48 - 119						MB-3	LCS-3	
4. Benzo(a)anthracene	U	330		3,526	5,333	66	56 - 120						MB-3	LCS-3	
5. Benzo(a)pyrene	U	330		3,838	5,333	72	57 - 122						MB-3	LCS-3	
6. Benzo(b)fluoranthene	U	330		3,712	5,333	70	50 - 131						MB-3	LCS-3	
7. Benzo(ghi)perylene	U	330		3,962	5,333	74	41 - 132						MB-3	LCS-3	
8. Benzo(k)fluoranthene	U	330		3,657	5,333	69	39 - 137						MB-3	LCS-3	
9. Chrysene	U	330		3,611	5,333	68	53 - 124						MB-3	LCS-3	
10. Dibenzo(a,h)anthracene	U	330		3,722	5,333	70	53 - 126						MB-3	LCS-3	
11. Fluoranthene	U	330		3,664	5,333	69	48 - 135						MB-3	LCS-3	
12. Fluorene	U	330		3,316	5,333	62	49 - 126						MB-3	LCS-3	
13. Indeno(1,2,3-cd)pyrene	U	330		4,613	5,333	87	51 - 132						MB-3	LCS-3	
14. 2-Methylnaphthalene	U	330		3,439	5,333	64	46 - 105						MB-3	LCS-3	
15. Phenanthrene	U	330		3,587	5,333	67	53 - 119						MB-3	LCS-3	
16. Pyrene	U	330		3,496	5,333	66	55 - 127						MB-3	LCS-3	

System Monitoring Compounds (Surrogates):	Method Blank (MB)				Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result µg/kg	Spike µg/kg	Rec. %	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. 2-Fluorobiphenyl(S)	3,520	5,333	66		2,677	5,333	50	49 - 115						MB-3	LCS-3	
2. 4-Terphenyl-d14(S)	3,066	5,333	57		2,820	5,333	53	48 - 117						MB-3	LCS-3	
3. 1-Fluoronaphthalene(S)	3,506	5,333	66		2,809	5,333	53	46 - 114						MB-3	LCS-3	

Definitions/ Qualifiers:

Run Code (Analysis Sequence/Run Time):

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

MB-3 S517I22A 09/22/17 18:00
LCS-3 SG17I25A 09/25/17 13:25

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:06 PM, Sep 26, 2017

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Quality Control Report
Preparation Batch QC Summary
Inductively Coupled Plasma - Mass Spectrometry
Soil/Solid

Batch ID: PT17I25B
Page: 1 of 1
Date: 09/26/17

Preparation Batch: PT17I25B

Preparation Date: 09/25/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result µg/kg	RL µg/kg	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Arsenic	U	100		9,714	10,000	97	85 - 115						MB-4	LCS-4	
2. Barium	U	1000		54,372	50,000	109	85 - 115						MB-4	LCS-4	
3. Cadmium	U	50		9,582	10,000	96	85 - 115						MB-4	LCS-4	
4. Chromium	U	500		21,459	20,000	107	85 - 115						MB-4	LCS-4	
5. Copper	U	1000		23,001	20,000	115	85 - 115						MB-4	LCS-4	
6. Lead	U	1000		21,045	20,000	105	85 - 115						MB-4	LCS-4	
7. Selenium	U	200		9,619	10,000	96	85 - 115						MB-4	LCS-4	
8. Silver	U	100		11,254	10,000	113	85 - 115						MB-4	LCS-4	
9. Zinc	U	1000		50,153	50,000	100	85 - 115						MB-4	LCS-4	

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
*: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-4 T417I26A 09/26/17 11:11
LCS-4 T417I26A 09/26/17 11:12

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:06 PM, Sep 26, 2017

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (Volatiles)
Soil/Solid

Batch ID: VI17120A
Page: 1 of 2
Date: 09/26/17

Preparation Batch: VI17120A

Preparation Date: 09/20/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)				LCS Duplicate (LCD)				Run Code		
	Result µg/kg	RL µg/kg	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Acetone	U	1000		2,458	2,500	98	70 - 150	100	2	20		MB-1	LCS-1	LCD-1
2. Acrylonitrile	U	100		2,342	2,500	94	70 - 134	101	7	20		MB-1	LCS-1	LCD-1
3. Benzene	U	50		2,237	2,500	89	70 - 134	87	2	20		MB-1	LCS-1	LCD-1
4. Bromobenzene	U	100		2,497	2,500	100	70 - 134	94	6	20		MB-1	LCS-1	LCD-1
5. Bromochloromethane	U	100		2,351	2,500	94	70 - 134	94	0	20		MB-1	LCS-1	LCD-1
6. Bromodichloromethane	U	100		2,454	2,500	98	70 - 134	96	2	20		MB-1	LCS-1	LCD-1
7. Bromoform	U	100		2,532	2,500	101	70 - 134	104	3	20		MB-1	LCS-1	LCD-1
8. Bromomethane	U	200		2,322	2,500	93	70 - 134	90	3	20		MB-1	LCS-1	LCD-1
9. 2-Butanone	U	750		2,629	2,500	105	70 - 150	112	6	20		MB-1	LCS-1	LCD-1
10. n-Butylbenzene	U	50		2,571	2,500	103	70 - 134	96	7	20		MB-1	LCS-1	LCD-1
11. sec-Butylbenzene	U	50		2,538	2,500	102	70 - 134	95	7	20		MB-1	LCS-1	LCD-1
12. tert-Butylbenzene	U	50		2,539	2,500	102	70 - 134	96	6	20		MB-1	LCS-1	LCD-1
13. Carbon Disulfide	U	250		2,266	2,500	91	70 - 134	86	6	20		MB-1	LCS-1	LCD-1
14. Carbon Tetrachloride	U	50		2,424	2,500	97	70 - 134	92	5	20		MB-1	LCS-1	LCD-1
15. Chlorobenzene	U	50		2,418	2,500	97	70 - 134	93	4	20		MB-1	LCS-1	LCD-1
16. Chloroethane	U	250		2,483	2,500	99	70 - 134	95	4	20		MB-1	LCS-1	LCD-1
17. Chloroform	U	50		2,378	2,500	95	75 - 134	94	1	20		MB-1	LCS-1	LCD-1
18. Chloromethane	U	250		2,213	2,500	89	70 - 134	84	6	20		MB-1	LCS-1	LCD-1
19. 2-Chlorotoluene	U	50		2,498	2,500	100	70 - 134	94	6	20		MB-1	LCS-1	LCD-1
20. Dibromochloromethane	U	100		2,580	2,500	103	70 - 134	102	1	20		MB-1	LCS-1	LCD-1
21. 1,2-Dibromo-3-chloropropane	U	250		2,527	2,500	101	70 - 134	106	5	20		MB-1	LCS-1	LCD-1
22. Dibromomethane	U	250		2,269	2,500	91	70 - 134	92	1	20		MB-1	LCS-1	LCD-1
23. 1,2-Dichlorobenzene	U	100		2,445	2,500	98	70 - 134	95	3	20		MB-1	LCS-1	LCD-1
24. 1,3-Dichlorobenzene	U	100		2,422	2,500	97	70 - 134	93	4	20		MB-1	LCS-1	LCD-1
25. 1,4-Dichlorobenzene	U	100		2,379	2,500	95	70 - 134	92	3	20		MB-1	LCS-1	LCD-1
26. Dichlorodifluoromethane	U	250		2,657	2,500	106	70 - 134	100	6	20		MB-1	LCS-1	LCD-1
27. 1,1-Dichloroethane	U	50		2,251	2,500	90	70 - 134	87	3	20		MB-1	LCS-1	LCD-1
28. 1,2-Dichloroethane	U	50		2,387	2,500	95	70 - 134	95	0	20		MB-1	LCS-1	LCD-1
29. 1,1-Dichloroethene	U	50		2,325	2,500	93	75 - 134	88	6	20		MB-1	LCS-1	LCD-1
30. cis-1,2-Dichloroethene	U	50		2,335	2,500	93	70 - 134	90	3	20		MB-1	LCS-1	LCD-1
31. trans-1,2-Dichloroethene	U	50		2,308	2,500	92	70 - 134	89	3	20		MB-1	LCS-1	LCD-1
32. 1,2-Dichloropropane	U	50		2,337	2,500	93	75 - 134	91	2	20		MB-1	LCS-1	LCD-1
33. cis-1,3-Dichloropropene	U	50		2,487	2,500	99	70 - 134	98	1	20		MB-1	LCS-1	LCD-1
34. trans-1,3-Dichloropropene	U	50		2,461	2,500	98	70 - 134	98	0	20		MB-1	LCS-1	LCD-1
35. Ethylbenzene	U	50		2,453	2,500	98	75 - 134	94	4	20		MB-1	LCS-1	LCD-1
36. Ethylene Dibromide	U	50		2,496	2,500	100	70 - 134	99	1	20		MB-1	LCS-1	LCD-1
37. 2-Hexanone	U	2500		2,619	2,500	105	70 - 150	110	5	20		MB-1	LCS-1	LCD-1
38. Isopropylbenzene	U	250		2,589	2,500	104	70 - 134	100	4	20		MB-1	LCS-1	LCD-1
39. Methylene Chloride	U	100		2,125	2,500	85	70 - 134	83	2	20		MB-1	LCS-1	LCD-1
40. 4-Methyl-2-pentanone	U	2500		2,406	2,500	96	70 - 134	105	9	20		MB-1	LCS-1	LCD-1
41. MTBE	U	250		2,347	2,500	94	70 - 134	95	1	20		MB-1	LCS-1	LCD-1
42. Naphthalene	U	330		2,390	2,500	96	70 - 134	98	2	20		MB-1	LCS-1	LCD-1
43. n-Propylbenzene	U	100		2,536	2,500	101	70 - 134	95	6	20		MB-1	LCS-1	LCD-1
44. Styrene	U	50		2,597	2,500	104	70 - 134	100	4	20		MB-1	LCS-1	LCD-1
45. 1,1,1,2-Tetrachloroethane	U	100		2,664	2,500	107	70 - 134	104	3	20		MB-1	LCS-1	LCD-1
46. 1,1,2,2-Tetrachloroethane	U	50		2,539	2,500	102	70 - 134	102	0	20		MB-1	LCS-1	LCD-1
47. Tetrachloroethene	U	50		2,447	2,500	98	70 - 134	92	6	20		MB-1	LCS-1	LCD-1
48. Toluene	U	50		2,323	2,500	93	75 - 134	90	3	20		MB-1	LCS-1	LCD-1
49. 1,2,4-Trichlorobenzene	U	250		2,458	2,500	98	70 - 134	98	0	20		MB-1	LCS-1	LCD-1
50. 1,1,1-Trichloroethane	U	50		2,340	2,500	94	70 - 134	91	3	20		MB-1	LCS-1	LCD-1
51. 1,1,2-Trichloroethane	U	50		2,427	2,500	97	70 - 134	96	1	20		MB-1	LCS-1	LCD-1

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (Volatiles)
Soil/Solid

Batch ID: VI17I20A
Page: 2 of 2
Date: 09/26/17

Preparation Batch: VI17I20A

Preparation Date: 09/20/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result	RL	Q	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
	µg/kg	µg/kg		µg/kg	µg/kg	%	%		%	%	%				
52. Trichloroethene	U	50		2,439	2,500	98	70 - 134		95	3	20		MB-1	LCS-1	LCD-1
53. Trichlorofluoromethane	U	100		2,250	2,500	90	70 - 134		82	9	20		MB-1	LCS-1	LCD-1
54. 1,2,3-Trichloropropane	U	100		2,474	2,500	99	70 - 134		101	2	20		MB-1	LCS-1	LCD-1
55. 1,2,3-Trimethylbenzene	U	100		2,553	2,500	102	70 - 134		98	4	20		MB-1	LCS-1	LCD-1
56. 1,2,4-Trimethylbenzene	U	100		2,727	2,500	109	70 - 134		104	5	20		MB-1	LCS-1	LCD-1
57. 1,3,5-Trimethylbenzene	U	100		2,526	2,500	101	70 - 134		96	5	20		MB-1	LCS-1	LCD-1
58. Vinyl Chloride	U	40		2,354	2,500	94	75 - 134		89	5	20		MB-1	LCS-1	LCD-1
59. m&p-Xylene	U	100		4,948	5,000	99	70 - 134		95	4	20		MB-1	LCS-1	LCD-1
60. o-Xylene	U	50		2,448	2,500	98	70 - 134		95	3	20		MB-1	LCS-1	LCD-1

System Monitoring Compounds (Surrogates):	Method Blank (MB)				Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result	Spike	Rec.	Q	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
	µg/kg	µg/kg	%		µg/kg	µg/kg	%	%		%	%	%				
1. Dibromofluoromethane(S)	2,462	2,500	98		2,478	2,500	99	76 - 126		100	1	20		MB-1	LCS-1	LCD-1
2. 1,2-Dichloroethane-d4(S)	2,537	2,500	101		2,446	2,500	98	75 - 120		101	3	20		MB-1	LCS-1	LCD-1
3. Toluene-d8(S)	2,462	2,500	98		2,443	2,500	98	80 - 120		99	1	20		MB-1	LCS-1	LCD-1
4. 4-Bromofluorobenzene(S)	2,492	2,500	100		2,445	2,500	98	76 - 127		91	7	20		MB-1	LCS-1	LCD-1

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
*****: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-1 VI17I20A 09/20/17 11:22
LCS-1 VI17I20A 09/20/17 10:01
LCD-1 VI17I20A 09/20/17 10:28

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:06 PM, Sep 26, 2017

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (Volatiles)
Soil/Solid

Batch ID: VJ17120A
Page: 1 of 2
Date: 09/26/17

Preparation Batch: VJ17120A

Preparation Date: 09/20/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)				LCS Duplicate (LCD)				Run Code		
	Result µg/kg	RL µg/kg	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Acetone	U	1000		2,383	2,500	95	70 - 150	106	11	20		MB-2	LCS-2	LCD-2
2. Acrylonitrile	U	100		2,685	2,500	107	70 - 134	102	5	20		MB-2	LCS-2	LCD-2
3. Benzene	U	50		2,392	2,500	96	70 - 134	94	2	20		MB-2	LCS-2	LCD-2
4. Bromobenzene	U	100		2,359	2,500	94	70 - 134	96	2	20		MB-2	LCS-2	LCD-2
5. Bromochloromethane	U	100		2,588	2,500	104	70 - 134	104	0	20		MB-2	LCS-2	LCD-2
6. Bromodichloromethane	U	100		2,418	2,500	97	70 - 134	96	1	20		MB-2	LCS-2	LCD-2
7. Bromoform	U	100		2,475	2,500	99	70 - 134	99	0	20		MB-2	LCS-2	LCD-2
8. Bromomethane	U	200		2,736	2,500	109	70 - 134	108	1	20		MB-2	LCS-2	LCD-2
9. 2-Butanone	U	750		2,626	2,500	105	70 - 150	105	0	20		MB-2	LCS-2	LCD-2
10. n-Butylbenzene	U	50		2,595	2,500	104	70 - 134	100	4	20		MB-2	LCS-2	LCD-2
11. sec-Butylbenzene	U	50		2,558	2,500	102	70 - 134	99	3	20		MB-2	LCS-2	LCD-2
12. tert-Butylbenzene	U	50		2,490	2,500	100	70 - 134	96	4	20		MB-2	LCS-2	LCD-2
13. Carbon Disulfide	U	250		2,518	2,500	101	70 - 134	96	5	20		MB-2	LCS-2	LCD-2
14. Carbon Tetrachloride	U	50		2,520	2,500	101	70 - 134	97	4	20		MB-2	LCS-2	LCD-2
15. Chlorobenzene	U	50		2,441	2,500	98	70 - 134	98	0	20		MB-2	LCS-2	LCD-2
16. Chloroethane	U	250		2,437	2,500	97	70 - 134	95	2	20		MB-2	LCS-2	LCD-2
17. Chloroform	U	50		2,367	2,500	95	75 - 134	95	0	20		MB-2	LCS-2	LCD-2
18. Chloromethane	U	250		2,516	2,500	101	70 - 134	97	4	20		MB-2	LCS-2	LCD-2
19. 2-Chlorotoluene	U	50		2,407	2,500	96	70 - 134	95	1	20		MB-2	LCS-2	LCD-2
20. Dibromochloromethane	U	100		2,415	2,500	97	70 - 134	97	0	20		MB-2	LCS-2	LCD-2
21. 1,2-Dibromo-3-chloropropane	U	250		2,472	2,500	99	70 - 134	96	3	20		MB-2	LCS-2	LCD-2
22. Dibromomethane	U	250		2,293	2,500	92	70 - 134	92	0	20		MB-2	LCS-2	LCD-2
23. 1,2-Dichlorobenzene	U	100		2,396	2,500	96	70 - 134	96	0	20		MB-2	LCS-2	LCD-2
24. 1,3-Dichlorobenzene	U	100		2,349	2,500	94	70 - 134	93	1	20		MB-2	LCS-2	LCD-2
25. 1,4-Dichlorobenzene	U	100		2,362	2,500	94	70 - 134	94	0	20		MB-2	LCS-2	LCD-2
26. Dichlorodifluoromethane	U	250		2,436	2,500	97	70 - 134	91	6	20		MB-2	LCS-2	LCD-2
27. 1,1-Dichloroethane	U	50		2,428	2,500	97	70 - 134	95	2	20		MB-2	LCS-2	LCD-2
28. 1,2-Dichloroethane	U	50		2,290	2,500	92	70 - 134	92	0	20		MB-2	LCS-2	LCD-2
29. 1,1-Dichloroethene	U	50		2,471	2,500	99	75 - 134	94	5	20		MB-2	LCS-2	LCD-2
30. cis-1,2-Dichloroethene	U	50		2,557	2,500	102	70 - 134	100	2	20		MB-2	LCS-2	LCD-2
31. trans-1,2-Dichloroethene	U	50		2,532	2,500	101	70 - 134	99	2	20		MB-2	LCS-2	LCD-2
32. 1,2-Dichloropropane	U	50		2,547	2,500	102	75 - 134	102	0	20		MB-2	LCS-2	LCD-2
33. cis-1,3-Dichloropropene	U	50		2,563	2,500	103	70 - 134	103	0	20		MB-2	LCS-2	LCD-2
34. trans-1,3-Dichloropropene	U	50		2,507	2,500	100	70 - 134	101	1	20		MB-2	LCS-2	LCD-2
35. Ethylbenzene	U	50		2,484	2,500	99	75 - 134	98	1	20		MB-2	LCS-2	LCD-2
36. Ethylene Dibromide	U	50		2,442	2,500	98	70 - 134	97	1	20		MB-2	LCS-2	LCD-2
37. 2-Hexanone	U	2500		2,778	2,500	111	70 - 150	106	5	20		MB-2	LCS-2	LCD-2
38. Isopropylbenzene	U	250		2,628	2,500	105	70 - 134	102	3	20		MB-2	LCS-2	LCD-2
39. Methylene Chloride	U	100		2,397	2,500	96	70 - 134	96	0	20		MB-2	LCS-2	LCD-2
40. 4-Methyl-2-pentanone	U	2500		2,851	2,500	114	70 - 134	108	5	20		MB-2	LCS-2	LCD-2
41. MTBE	U	250		2,600	2,500	104	70 - 134	104	0	20		MB-2	LCS-2	LCD-2
42. Naphthalene	U	330		2,059	2,500	82	70 - 134	81	1	20		MB-2	LCS-2	LCD-2
43. n-Propylbenzene	U	100		2,473	2,500	99	70 - 134	96	3	20		MB-2	LCS-2	LCD-2
44. Styrene	U	50		2,601	2,500	104	70 - 134	102	2	20		MB-2	LCS-2	LCD-2
45. 1,1,1,2-Tetrachloroethane	U	100		2,598	2,500	104	70 - 134	103	1	20		MB-2	LCS-2	LCD-2
46. 1,1,2,2-Tetrachloroethane	U	50		2,518	2,500	101	70 - 134	100	1	20		MB-2	LCS-2	LCD-2
47. Tetrachloroethene	U	50		2,348	2,500	94	70 - 134	91	3	20		MB-2	LCS-2	LCD-2
48. Toluene	U	50		2,431	2,500	97	75 - 134	95	2	20		MB-2	LCS-2	LCD-2
49. 1,2,4-Trichlorobenzene	U	250		2,399	2,500	96	70 - 134	97	1	20		MB-2	LCS-2	LCD-2
50. 1,1,1-Trichloroethane	U	50		2,327	2,500	93	70 - 134	90	3	20		MB-2	LCS-2	LCD-2
51. 1,1,2-Trichloroethane	U	50		2,452	2,500	98	70 - 134	98	0	20		MB-2	LCS-2	LCD-2

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (Volatiles)
Soil/Solid

Batch ID: VJ17120A
Page: 2 of 2
Date: 09/26/17

Preparation Batch: VJ17120A

Preparation Date: 09/20/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result µg/kg	RL µg/kg	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
52. Trichloroethene	U	50		2,475	2,500	99	70 - 134		97	2	20		MB-2	LCS-2	LCD-2
53. Trichlorofluoromethane	U	100		1,824	2,500	73	70 - 134		68	7	20		MB-2	LCS-2	LCD-2
54. 1,2,3-Trichloropropane	U	100		2,405	2,500	96	70 - 134		92	4	20		MB-2	LCS-2	LCD-2
55. 1,2,3-Trimethylbenzene	U	100		2,484	2,500	99	70 - 134		98	1	20		MB-2	LCS-2	LCD-2
56. 1,2,4-Trimethylbenzene	U	100		2,699	2,500	108	70 - 134		105	3	20		MB-2	LCS-2	LCD-2
57. 1,3,5-Trimethylbenzene	U	100		2,478	2,500	99	70 - 134		97	2	20		MB-2	LCS-2	LCD-2
58. Vinyl Chloride	U	40		2,591	2,500	104	75 - 134		100	4	20		MB-2	LCS-2	LCD-2
59. m&p-Xylene	U	100		5,025	5,000	100	70 - 134		99	1	20		MB-2	LCS-2	LCD-2
60. o-Xylene	U	50		2,518	2,500	101	70 - 134		99	2	20		MB-2	LCS-2	LCD-2

System Monitoring Compounds (Surrogates):	Method Blank (MB)				Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result µg/kg	Spike µg/kg	Rec. %	Q	Result µg/kg	Spike µg/kg	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Dibromofluoromethane(S)	2,445	2,500	98		2,439	2,500	98	76 - 126		97	1	20		MB-2	LCS-2	LCD-2
2. 1,2-Dichloroethane-d4(S)	2,352	2,500	94		2,312	2,500	92	75 - 120		92	0	20		MB-2	LCS-2	LCD-2
3. Toluene-d8(S)	2,513	2,500	101		2,521	2,500	101	80 - 120		101	0	20		MB-2	LCS-2	LCD-2
4. 4-Bromofluorobenzene(S)	2,636	2,500	105		2,666	2,500	107	76 - 127		108	1	20		MB-2	LCS-2	LCD-2

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
*****: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-2 VJ17120A 09/20/17 11:52
LCS-2 VJ17120A 09/20/17 10:34
LCD-2 VJ17120A 09/20/17 11:00

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:06 PM, Sep 26, 2017

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Tuesday, October 03, 2017

Fibertec Project Number: 80828 Supplemental
Project Identification: CDC (170275) /170275
Submittal Date: 09/19/2017

Mr. Derrick Lingle
Envirologic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, MI 49048

Dear Mr. Lingle,

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 10 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,

A handwritten signature in black ink that reads "Emily Kennedy". The signature is fluid and cursive.

By Emily Kennedy at 4:23 PM, Oct 03, 2017

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: 80828
Laboratory Sample Number: 80828-001

Order: 80828
Page: 2 of 3
Date: 10/03/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: PW-8	Chain of Custody: 156770
Client Project Name: CDC (170275)	Sample No:	Collect Date: 09/18/17
Client Project No: 170275	Sample Matrix: Ground Water	Collect Time: 15:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable +: Parameter not included in NELAC Scope of Analysis.

Mercury by CVAAS, Total
Method: EPA 7470A

Aliquot ID: 80828-001
Description: PW-8
Matrix: Ground Water

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	10/03/17	PM17J03A	10/03/17	M617J03B	NRV

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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:



Accreditation Number(s):

T104704518-17-6 (TX)

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Quality Control Report
Preparation Batch QC Summary
Cold Vapor Atomic Absorption Spectrometry
Aqueous

Batch ID: PM17J03A
Page: 1 of 1
Date: 10/03/17

Preparation Batch: PM17J03A

Preparation Date: 10/03/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result	RL	Q	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
1. Mercury	U	0.20		0.252	0.250	101	85 - 115						MB-1	LCS-1	

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-1 M617J03B 10/03/17 12:41
LCS-1 M617J03B 10/03/17 12:42

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Emily Kennedy at 4:24 PM, Oct 03, 2017

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APPENDIX F

RESTRICTIVE COVENANT

Non-Residential Use Restriction (Filed: October 10, 2017)

***Direct Contact Exposure Notification, NAPL Body, and Vapor Intrusion Exposure Restriction
(Filed: October 10, 2017)***



Jay De Boyer Register Of Deeds

St Clair County, Michigan

Rec \$26.00

Remon \$4.00

Tax Crt \$0.00

Recorded

October 10, 2017 02:08:10 PM

Liber 4878 Page 443-451
Receipt # 11406 DECL#2017024187



Seal



Liber 4878 Page 443

DECLARATION OF RESTRICTIVE COVENANT

DEQ Reference No: RC-RD-201-16-028

This Declaration of Restrictive Covenant ("Restrictive Covenant") has been recorded with the St. Clair County Register of Deeds for the purpose of protecting public health, safety, and welfare, and the environment by prohibiting or restricting activities that could result in unacceptable exposure to environmental contamination present at the property located at 298 Gratiot Boulevard, Marysville and legally described in Exhibit 1 attached hereto ("Property").

Response activities were implemented to address environmental contamination at the Property pursuant to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 *et seq.* The response activities that were implemented to address environmental contamination are fully described in a No Further Action (NFA) Report that was prepared and submitted by Envirollogic Technologies, Inc. on behalf of CDC Marysville, LLC. Response activities including a remedial investigation were conducted in cooperation and consultation with the Michigan Department of Environmental Quality (DEQ), pursuant to Part 201 of NREPA.

The Property described contains hazardous substances in excess of the concentrations developed as the unrestricted residential criteria under Section 20120a(1)(a) or (17) of the NREPA. The DEQ recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of Section 20107a of the NREPA.

The response activities required the recording of this Restrictive Covenant with the St. Clair County Register of Deeds to: 1) restrict unacceptable exposures to hazardous substances located on the Property; 2) assure that the use of Property is consistent with the exposure assumptions used to develop the Nonresidential cleanup criteria under Section 20120a(1) of the NREPA and the exposure control measures relied upon at the Property.

The restrictions contained in this Restrictive Covenant are based upon information available at the time the response activities were implemented. Failure of the response activities to achieve and maintain the criteria, exposure controls, and any requirements specified by the response activities; future changes in the environmental condition of the Property or changes in the Nonresidential cleanup criteria under Section 20120a(1) of the NREPA; the discovery of environmental conditions at the Property that were not accounted for during implementation of the response activities; or use of the Property in a manner inconsistent with the restrictions described herein, may result in this Restrictive Covenant not being protective of public health, safety, and welfare, and the environment.

Exhibit 2 provides a survey of the Property that is subject to the land use or resource use restrictions specified herein.

Definitions

For the purposes of this Restrictive Covenant, the following definitions shall apply:

"DEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then current title holder of the Property or any portion thereof.

All other terms used in this document which are defined in Part 3, Definitions, of the NREPA; Part 201 of the NREPA; or the Part 201 Administrative Rules, 2002 Michigan Register; Effective December 21, 2002, shall have the same meaning in this document as in Parts 3 and 201 of the NREPA and the Part 201 Administrative Rules, as of the date of filing of this Restrictive Covenant.

Summary of Response Activities

Documents describing the response activities and environmental contamination at the Property are on file at the Michigan DEQ Southeast District Office, located at 27700 Donald Court in Warren, Michigan. Envirologic Technologies, Inc. implemented response activities in the following areas to address environmental contamination:

1. Area J (1) – Oil Terminal (Southern Woodlot)
2. Area J (2) – Oil Terminal (Southern Berm)
3. Area J (3) – Oil Terminal (Southern Pipeline Operations/Eastern Berm)
4. Area J (4) – (Northern/Western Berm)

NOW THEREFORE,

1. Declaration of Land Use or Resource Use Restrictions

CDC Marysville, LLC, as the Owner of the Property, hereby declares and covenants that the Property shall be subject to the following restrictions and conditions:

a. Prohibited Land Uses: The Owner shall prohibit all uses of the Property that are not compatible with or are inconsistent with the assumptions and basis for the nonresidential cleanup criteria established pursuant to Section 20120a(1)(b) of the NREPA. Uses that are compatible with nonresidential cleanup criteria are generally described in Exhibit 3 (Allowable Uses). Cleanup criteria for land-use based response activities are located in the Government Documents Section of the State of Michigan Library.

b. Prohibited Activities to Eliminate Unacceptable Exposure to Hazardous Substances. The Owner shall prohibit activities on the Property that may result in exposures to hazardous substances at the Property. These prohibited activities include:

The construction and use of wells or other devices on the Property to extract groundwater for consumption, irrigation, or any other purpose, except as provided below:

(i) Wells and other devices constructed as part of a response activity for the purpose of evaluating groundwater quality or to remediate subsurface contamination associated with a release of hazardous substances into the environment are permitted provided the construction of the wells or devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, or federal laws or regulations.

(ii) Short-term dewatering for construction purposes is permitted provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

c. Prohibited Activities to Ensure the Effectiveness and Integrity of the Response Activity. The Owner shall prohibit activities on the Property that may interfere with any element of the response activities, including the performance of operation and maintenance activities, monitoring, or other measures necessary to ensure the effectiveness and integrity of the response activities implemented at the Property.

d. Contaminated Soil Management. The Owner shall manage all soils, media and/or debris located on the Property in accordance with the applicable requirements of Section 20120c of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.*; the administrative rules promulgated thereunder; and all other relevant state and federal laws.

2. Access. The Owner grants to the DEQ and its designated representatives the right to enter the Property at reasonable times for the purpose of determining and monitoring compliance with the response activities, including the right to take samples, inspect the operation of the response activities and inspect any records relating thereto, and to perform any actions necessary to maintain compliance with Part 201.

3. Conveyance of Property Interest. The Owner shall provide notice to the DEQ of the Owner's intent to transfer any interest in the Property at least fourteen (14) business days prior to consummating the conveyance. A conveyance of title, easement, or other interest in the Property shall not be consummated by the Owner without adequate and complete provision for compliance with the applicable provisions of Section 20116 of the NREPA. The notice required to be made to the DEQ under this Paragraph shall be made to: Chief, Remediation and Redevelopment Division, Michigan DEQ, P.O. Box 30426, Lansing, Michigan 48909-7926; and shall include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant, DEQ Reference Number RC-RD-201-16-028. A copy of this Restrictive Covenant shall be provided to all future owners, heirs, successors, lessees, easement holders, assigns, and transferees by the person transferring the interest.

4. Term of Restrictive Covenant. This Restrictive Covenant shall run with the Property and shall be binding on the Owner; future owners; and their successors and assigns, lessees, easement holders, and any authorized agents, employees, or persons acting under their direction and control. This Restrictive Covenant shall continue in effect until the DEQ or its successor determines that hazardous substances no longer present an unacceptable risk to the public health, safety, or welfare, or the environment. This Restrictive Covenant may only be modified or rescinded with the written approval of the DEQ.

5. Enforcement of Restrictive Covenant. The State of Michigan, through the DEQ, and CDC Marysville. LLC may individually enforce the restrictions set forth in this Restrictive Covenant by legal action in a court of competent jurisdiction.

6. Severability. If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof, and all such other provisions shall continue unimpaired and in full force and effect.

7. Authority to Execute Restrictive Covenant. The undersigned person executing this Restrictive Covenant is the Owner, or has the express written permission of the Owner, and represents and certifies that he or she is duly authorized and has been empowered to execute and deliver this Restrictive Covenant

IN WITNESS WHEREOF, CDC Marysville, LLC has caused this Restrictive Covenant, RC-RD-201-16-028, to be executed on this 17 day of August 2016.

CDC Marysville, LLC

By: [Signature]
Signature

Name: Michael J. Roberts
Print or Type Name

Its: Member
Title

STATE OF MISSOURI
COUNTY OF SAINT LOUIS

The foregoing instrument was acknowledged before me this 17 day of August 2016 by Michael J. Roberts, member of CDC Marysville, LLC, a Missouri corporation, on behalf of the corporation. DAL



REBECCA LYDON
My Commission Expires
November 1, 2017
St. Louis County
Commission #13540330

[Signature]
Notary Public Signature

Notary Public, State of Missouri
County of St. Louis
My Commission Expires: 11-1-17
Acting in the County of St. Louis

Prepared by and when recorded return to:

David B. Warwick
Envirollogic Technologies, Inc., 2960 Interstate Parkway, Kalamazoo, MI 49048

EXHIBIT 1

LEGAL DESCRIPTION OF PROPERTY

BEG S 2D 23M 56S E 1250' FROM NE SEC COR, TH S 2D 23M 56S E 1434.03', TH S 88D 32M 23S W 691.57', TH N 1D 35M 46S W 1199.17', TH N 2D 7M 18S W 223.69', TH N 87D 36M 14S E 673.60' TO BEG SECTION 29 T6N R17E 22.3

EXHIBIT 2

SURVEY OF THE PROPERTY

Note: Areas of Interest that have been cited in the Summary of Response Activities are depicted in drawings that are on file at the Michigan DEQ Southeast District Office, located at 27700 Donald Court in Warren, Michigan.

EXHIBIT 3

DESCRIPTION OF ALLOWABLE USES

Nonresidential Land Use: This land use is characterized by any use which is not residential in nature and is primarily characterized by industrial and commercial uses. Industrial uses typically involve manufacturing operations engaged in processing and manufacturing of materials or products. Other examples of industrial uses are utility companies, industrial research and development, and petroleum bulk storage. Commercial uses include any business or income-producing use such as commercial warehouses, lumber yards, retail gas stations, auto dealerships and service stations, as well as office buildings, banks, and medical/dental offices (not including hospitals). Commercial uses also include retail businesses whose principal activity is the sale of food or merchandise within an enclosed building and personal service establishments which perform services indoors such as health clubs, barber/beauty salons, photographic studios, etc.

Any residential use is specifically prohibited from the non-residential land use category. This would include the primary use of the property for human habitation and includes structures such as single family dwellings, multiple family structures, mobile homes, condominiums, and apartment buildings. Residential use is also characterized by any use which is intended to house, educate, or provide care for children, the elderly, the infirm, or other sensitive populations, and therefore could include day care centers, educational facilities, hospitals, elder care facilities, and nursing homes. The use of any accessory building or portion of an existing building as a dwelling unit permitted for a proprietor or storekeeper and their families, located in the same building as their place of occupation, or for a watchman or caretaker is also prohibited. Any authority that allows for residential use of the Property as a legal non-conforming is also restricted per the prohibitions contained in this restrictive covenant.

Jay De Boyer Register Of Deeds

St Clair County, Michigan

Rec \$26.00

Remon \$4.00

Tax Crt \$0.00

Recorded

October 10, 2017 02:08:10 PM

Liber 4878 Page 452-463
Receipt # 11406 DECL#2017024188



Seal



Liber 4878 Page 452

DECLARATION OF RESTRICTIVE COVENANT

DEQ Reference No: RC-RRD-201-16-028

This Declaration of Restrictive Covenant ("Restrictive Covenant") has been recorded with the St. Clair County Register of Deeds for the purpose of protecting public health, safety, and welfare, and the environment by prohibiting Notice of activities that could result in unacceptable exposure to environmental contamination present at the property located at 298 Gratiot Boulevard, Marysville and legally described in Exhibit 1 attached hereto ("Property").

Response activities were implemented to address environmental contamination at the Property pursuant to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 *et seq.* The response activities that were implemented to address environmental contamination are fully described in the No Further Action (NFA) Report dated May 25, 2016, and prepared by Envirologic Technologies, Inc. on behalf of CDC Marysville, LLC. Response activities including a remedial investigation were conducted in cooperation and consultation with the Michigan Department of Environmental Quality (DEQ), pursuant to Part 201 of NREPA.

The Property described contains hazardous substances in excess of the concentrations developed as the unrestricted residential criteria under Section 20120a(1)(a) or (17) of the NREPA. The DEQ recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of Section 20107a of the NREPA.

The response activities required the recording of this Restrictive Covenant with the St. Clair County Register of Deeds to: 1) provide notice of potential unacceptable exposures to hazardous substances located on the Property; 2) assure that the use of Property is consistent with the exposure assumptions used to develop the Nonresidential cleanup criteria under Section 20120a(1)(b) of the NREPA and the exposure control measures relied upon at the Property.

The Notice contained in this Restrictive Covenant is based upon information available at the time the response activities were implemented. Failure of the response activities to achieve and maintain the criteria, exposure controls, and any requirements specified by the response activities; future changes in the environmental condition of the Property or changes in the Nonresidential cleanup criteria under Section 20120a(1)(b) of the NREPA; the discovery of

environmental conditions at the Property that were not accounted for during implementation of the response activities; or use of the Property in a manner inconsistent with the Notice described herein, may result in this Restrictive Covenant not being protective of public health, safety, and welfare, and the environment.

The "Survey of Property and Limits of Land or Resource Use Notices," attached as Exhibit 2, provides a survey of the Property that depicts the area or areas subject to the Notice and contains legal descriptions that distinguish those portions of the Property that are subject to the Notice in this Restrictive Covenant.

Definitions

For the purposes of this Restrictive Covenant, the following definitions shall apply:

"DEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then current title holder of the Property or any portion thereof.

All other terms used in this document which are defined in Part 3, Definitions, of the NREPA; Part 201 of the NREPA; or the Part 201 Administrative Rules, 2002 Michigan Register; Effective December 21, 2002, shall have the same meaning in this document as in Parts 3 and 201 of the NREPA and the Part 201 Administrative Rules, as of the date of filing of this Restrictive Covenant.

Summary of Response Activities

Contaminants associated with coal and coal combustion byproduct material (arsenic and cadmium) along with #6 fuel oil (benzo(a)pyrene) have been detected in soil south of Bunce Creek (Area J (1)) and along the southern (Area J (2)) and eastern (Area J (3)) side of an aboveground storage tank (AST) secondary containment berm. Area J (1) through Area J (3) are depicted in Exhibit 2. Prior to the recording of this Restrictive Covenant, a Remedial Investigation (RI) was conducted. During the RI, the horizontal and vertical extent of soil contaminants was delineated. Concentrations of arsenic in excess of the Non-Residential Direct Contact (NRDC) criterion were identified at depths greater than three (3) feet below ground surface in Area J (1), Area J (2), and in Area J (3). Benzo(a)pyrene in excess of the NRDC criterion and cadmium in excess of the Non-Residential Particulate Soil Inhalation criterion were identified at depths greater than nine (9) feet in Area J (3). This Restrictive Covenant has been recorded on the Property to provide notice to prospective purchasers of the presence of regulated substances at concentrations in excess of the non-residential direct contact and particulate soil inhalation criterion at depths greater than three (3) feet below ground surface.

Residual Nonaqueous-Phase Liquid (NAPL), associated with #6 fuel oil, was properly characterized and will remain in place. The NAPL exists below the ground surface at a depth of 10.5 feet to 17 feet. Exhibit 2 describes and provides the location of the horizontal and vertical extent of the NAPL. The Notice provided for in this Restrictive Covenant serve to prevent unacceptable exposure to hazardous substances as a result of the conditions created by the presence of the NAPL soil contaminant concentrations that exceed the unrestricted Non-Residential criteria under Section 21304a(2) of the NREPA.

NOW THEREFORE,

1. Declaration of Land Use or Resource Use Restrictions

CDC Marysville, LLC, as the Owner of the Property, hereby declares and covenants that the Property shall be subject to the following restrictions and conditions:

a. Prohibited Land Uses: The Owner shall prohibit all uses of portions of the Property, as described in Exhibit 2, that are not compatible with or are inconsistent with the assumptions and basis for the Nonresidential cleanup criteria established pursuant to Section 20120a(1)(b) of the NREPA. Uses that are compatible with Nonresidential cleanup criteria are generally described in Exhibit 3 (Allowable Uses). Cleanup criteria for land-use based response activities are located in the Government Documents Section of the State of Michigan Library.

- i. Be advised that concentrations of arsenic, benzo(a)pyrene, and cadmium in soil at portions of this site as described in Exhibit 2 exist above the Nonresidential direct contact criteria and particulate soil inhalation criteria, respectively, at depths greater than three (3) feet below ground surface elevation as described in Exhibit 2.
- ii. Be advised that residual NAPL is present at depths greater than 10.5 feet below ground surface elevation at portions of this site as described in Exhibit 2.
- iii. Development or redevelopment on this site should take into consideration the potential for exposure to contaminants/NAPL in soil at the areas described in Exhibit 2. Be advised that any excavation or other intrusive activity that exposes soil at depths greater than three (3) feet in areas defined in Exhibit 2, may create an exposure to arsenic, benzo(a)pyrene and cadmium. Such activities must consider the provisions and requirements of Part 201 of the NREPA to prevent adverse exposure to these contaminants.

b. Prohibited Activities to Eliminate Unacceptable Exposure to Hazardous Substances. The Owner shall prohibit activities within the portion of the Property designated in Exhibit 2 as Restriction Zone #2 that may result in exposures to hazardous substances at the Property. These prohibited activities include:

- i. Vapor Intrusion Exposure Restriction (no new buildings): The construction of new structures, unless such construction incorporates engineering controls designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into the new structure at concentrations greater than applicable criteria; or, unless prior to construction of any structure, an evaluation of the potential for any hazardous substances to volatilize into indoor air assures the protection of persons who may be present in the buildings and is in compliance with Section 20107a of the NREPA.

c. Contaminated Soil Management. The Owner shall manage all soils, media and/or debris located within the portions of the Property designated in Exhibit 2 in accordance with the applicable requirements of Section 20120c of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Subtitle C of the Resource Conservation and Recovery Act,

42 U.S.C. Section 6901 *et seq.*; the administrative rules promulgated thereunder; and all other relevant state and federal laws.

2. Access. The Owner grants to the DEQ and its designated representatives the right to enter the Property at reasonable times for the purpose of determining and monitoring compliance with the response activities, including the right to take samples, inspect the operation of the response activities and inspect any records relating thereto, and to perform any actions necessary to maintain compliance with Part 201.

3. Conveyance of Property Interest. The Owner shall provide notice to the DEQ of the Owner's intent to transfer any interest in the Property at least fourteen (14) business days prior to consummating the conveyance. A conveyance of title, easement, or other interest in the Property shall not be consummated by the Owner without adequate and complete provision for compliance with the applicable provisions of Section 20116 of the NREPA. The notice required to be made to the DEQ under this Paragraph shall be made to: Chief, Remediation and Redevelopment Division, Michigan DEQ, P.O. Box 30426, Lansing, Michigan 48909-7926; and shall include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant, DEQ Reference Number RC-RD-201-16-028. A copy of this Restrictive Covenant shall be provided to all future owners, heirs, successors, lessees, easement holders, assigns, and transferees by the person transferring the interest.

4. Term of Restrictive Covenant. This Restrictive Covenant shall run with the Property and shall be binding on the Owner; future owners; and their successors and assigns, lessees, easement holders, and any authorized agents, employees, or persons acting under their direction and control. This Restrictive Covenant shall continue in effect until the DEQ or its successor determines that hazardous substances no longer present an unacceptable risk to the public health, safety, or welfare, or the environment. This Restrictive Covenant may only be modified or rescinded with the written approval of the DEQ.

5. Enforcement of Restrictive Covenant. The State of Michigan, through the DEQ, and CDC Marysville, LLC may individually enforce the restrictions set forth in this Restrictive Covenant by legal action in a court of competent jurisdiction.

6. Severability. If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof, and all such other provisions shall continue unimpaired and in full force and effect.

7. Authority to Execute Restrictive Covenant. The undersigned person executing this Restrictive Covenant is the Owner, or has the express written permission of the Owner, and represents and certifies that he or she is duly authorized and has been empowered to execute and deliver this Restrictive Covenant

IN WITNESS WHEREOF, CDC Marysville, LLC has caused this Restrictive Covenant, RC-RD-201-16-028, to be executed on this 26th day of May 2016.



(DAL)

CDC Marysville, LLC

By: [Signature]
Signature

Name: Michael Roberts
Print or Type Name

Its: Manager
Title

STATE OF MISSOURI
COUNTY OF SAINT LOUIS



The foregoing instrument was acknowledged before me this 26 day of May 2016 by Michael Roberts, manager of CDC Marysville, LLC, a Missouri corporation, on behalf of the corporation.



(DAL)



REBECCA LYDON
My Commission Expires
November 1, 2017
St. Louis County
Commission #13540330



[Signature]
Notary Public Signature

Notary Public, State of Missouri
County of St. Louis
My Commission Expires: 11-1-17
Acting in the County of St. Louis

Prepared by and when recorded return to:

David B. Warwick
Envirologic Technologies, Inc., 2960 Interstate Parkway, Kalamazoo, MI 49048

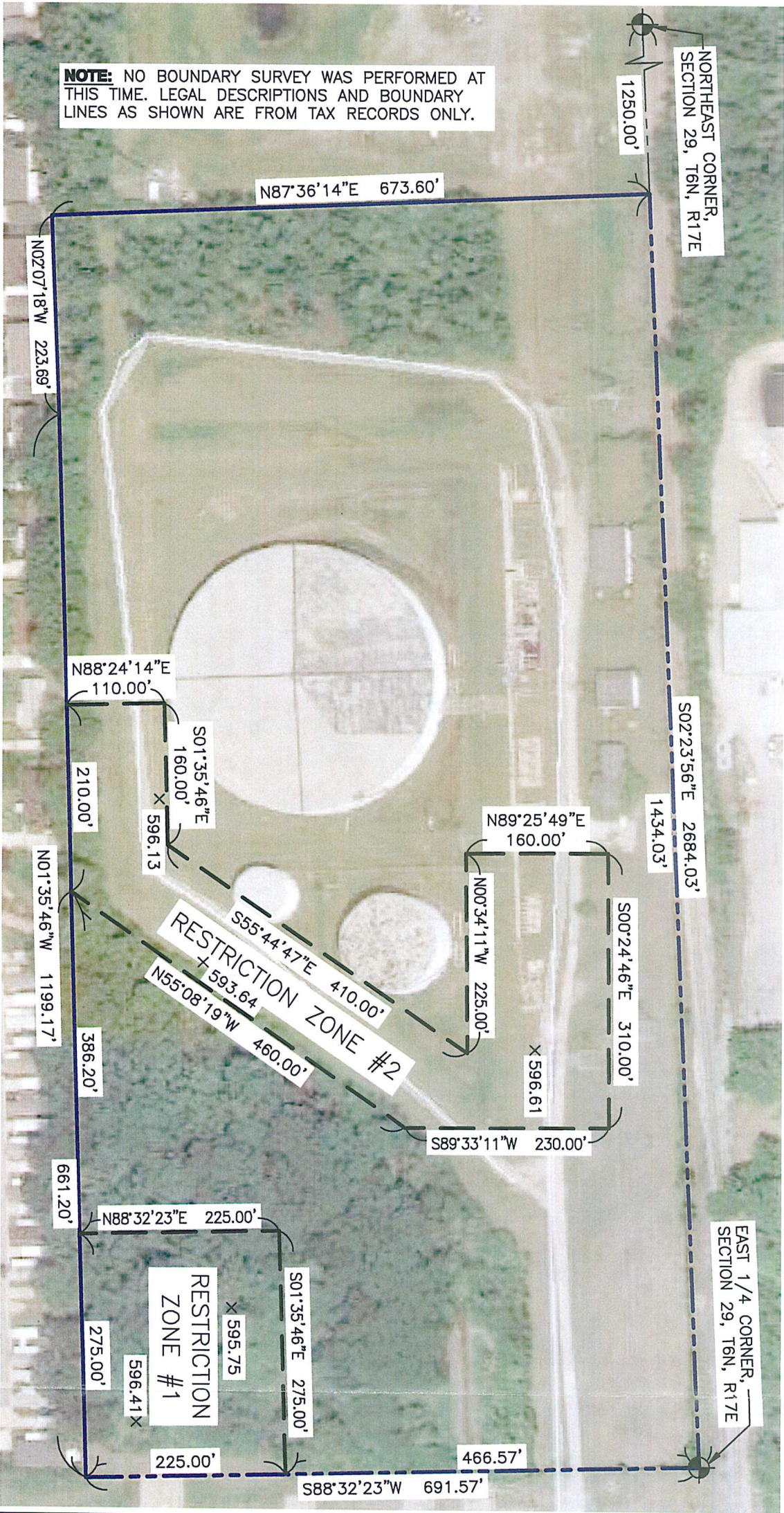
EXHIBIT 1

LEGAL DESCRIPTION OF PROPERTY

BEG S 2D 23M 56S E 1250' FROM NE SEC COR, TH S 2D 23M 56S E 1434.03', TH S 88D 32M 23S W 691.57', TH N 1D 35M 46S W 1199.17', TH N 2D 7M 18S W 223.69', TH N 87D 36M 14S E 673.60' TO BEG SECTION 29 T6N R17E 22.35A

EXHIBIT 2

**SURVEY OF THE PROPERTY
AND LIMITS OF LAND OR RESOURCE USE RESTRICTIONS
HORIZONTAL AND VERTICAL EXTENT OF RESIDUAL LNAPL**



1	SCALE: 1" = 150'	ENVIROLOGIC TECHNOLOGIES, INC 2960 INTERSTATE PARKWAY KALAMAZOO, MI 49048	REVISIONS	5		
	PROJECT NO.: 2016-0008			4		
	FILE NAME: SP-01.DWG			3		
	SHEET: 1 OF 2			2		
SKETCH OF GROUND WATER USE RESTRICTION ZONES DTE GREENWOOD OIL TERMINAL 3223 RAVENSWOOD ROAD, MARYSVILLE, MI		SHINK ENGINEERING, PLC 4146 PINE GROVE ROAD FORT GRATIOT, MI 48059 lmshink@yahoo.com 586.718.1965		1		
				DATE:	5/16/16	
				DESIGNED BY:	LMS	
				DRAWN BY:	TLE	
				CHECKED BY:		
				APPROVED BY:		

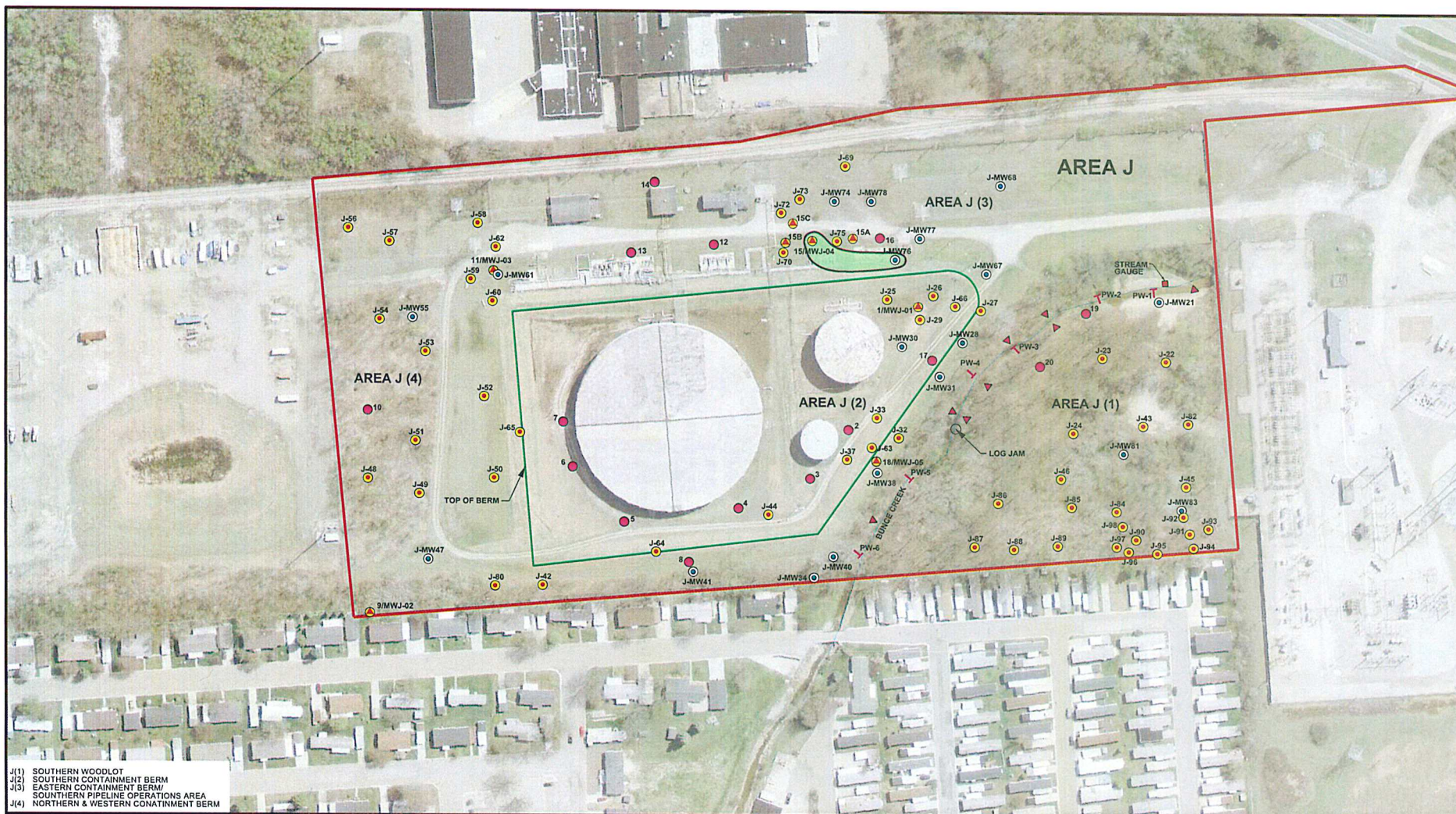
NOTE: NO BOUNDARY SURVEY WAS PERFORMED AT THIS TIME. LEGAL DESCRIPTIONS AND BOUNDARY LINES AS SHOWN ARE FROM TAX RECORDS ONLY.

PROPERTY DESCRIPTION: A PARCEL OF LAND BEING A PART OF THE NORTHEAST ¼ OF SECTION 29, T6N, R17E, CITY OF MARYSVILLE, ST. CLAIR COUNTY, MICHIGAN. BEGINNING S. 02° 23' 56" E. 1250 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 29; THENCE S. 02° 23' 56" E. 1434.03 FEET; THENCE S. 88° 32' 23" W. 691.57 FEET; THENCE N. 01° 35' 46" W. 1199.17 FEET; THENCE N. 02° 07' 18" W. 223.69 FEET; THENCE N. 87° 36' 14" E. 673.60 FEET TO THE POINT OF BEGINNING. SAID PARCEL CONTAINS 22.35 ACRES, MORE OR LESS.

DESCRIPTION OF RESTRICTION ZONE #1: A PARCEL OF LAND BEING A PART OF THE NORTHEAST ¼ OF SECTION 29, T6N, R17E, CITY OF MARYSVILLE, ST. CLAIR COUNTY, MICHIGAN. COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 29; THENCE S. 02° 23' 56" E. 2684.03 FEET ALONG THE EAST LINE OF SAID SECTION 29 TO THE EAST ¼ CORNER; THENCE S. 88° 32' 23" W. 466.57 FEET ALONG THE EAST AND WEST ¼ LINE OF SAID SECTION 29 TO THE POINT OF BEGINNING; THENCE CONTINUING S. 88° 32' 23" W. 225.00 FEET ALONG THE EAST AND WEST ¼ LINE OF SAID SECTION 29; THENCE N. 01° 35' 46" W. 275.00 FEET; THENCE N. 88° 32' 23" E. 225.00 FEET; THENCE S. 01° 35' 46" E. 275.00 FEET TO THE POINT OF BEGINNING. SAID PARCEL CONTAINS 1.42 ACRES, MORE OR LESS.

DESCRIPTION OF RESTRICTION ZONE #2: A PARCEL OF LAND BEING A PART OF THE NORTHEAST ¼ OF SECTION 29, T6N, R17E, CITY OF MARYSVILLE, ST. CLAIR COUNTY, MICHIGAN. COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 29; THENCE S. 02° 23' 56" E. 2684.03 FEET ALONG THE EAST LINE OF SAID SECTION 29 TO THE EAST ¼ CORNER; THENCE S. 88° 32' 23" W. 691.57 FEET ALONG THE EAST AND WEST ¼ LINE OF SAID SECTION 29; THENCE N. 01° 35' 46" W. 661.20 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING N. 01° 35' 46" W. 210.00 FEET; THENCE N. 88° 24' 14" E. 110.00 FEET; THENCE S. 01° 35' 46" E. 160.00 FEET; THENCE S. 55° 44' 47" E. 410.00 FEET; THENCE N. 00° 34' 11" W. 225.00 FEET; THENCE N. 89° 25' 49" E. 160.00 FEET; THENCE S. 00° 24' 46" E. 310.00 FEET; THENCE S. 89° 33' 11" W. 230.00 FEET; THENCE N. 55° 08' 19" W. 460.00 FEET TO THE POINT OF BEGINNING. SAID PARCEL CONTAINS 2.75 ACRES, MORE OR LESS.

2	SCALE: 1" = 150'	ENVIROLOGIC TECHNOLOGIES, INC 2960 INTERSTATE PARKWAY KALAMAZOO, MI 49048	R E V I S I O N S	5	
	4				
	3				
	2				
SHEET: 2 OF 2	1				
DESCRIPTIONS OF GROUND WATER USE RESTRICTION ZONES		SHINK ENGINEERING, PLC 4146 PINE GROVE ROAD FORT GRATIOT, MI 48059 lmshink@yahoo.com 586.718.1965	DATE:	5/16/16	
DTE GREENWOOD OIL TERMINAL 3223 RAVENSWOOD ROAD, MARYSVILLE, MI			DESIGNED BY:	LMS	
			DRAWN BY:	TLE	
			CHECKED BY:		
			APPROVED BY:		



J(1) SOUTHERN WOODLOT
J(2) SOUTHERN CONTAINMENT BERM
J(3) EASTERN CONTAINMENT BERM/
SOUTHERN PIPELINE OPERATIONS AREA
J(4) NORTHERN & WESTERN CONTAINMENT BERM

LEGEND

- SOIL BORING LOCATION (PHASE II)
- SOIL BORING/TEMPORARY MONITORING WELL LOCATION (PHASE II)
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- PORE WATER SAMPLE
- SECTION OF LOSING STREAM

APPROXIMATE EXTENT
OF RESIDUAL NAPL

NOTE:
THIS IS NOT A PROPERTY BOUNDARY SURVEY. PROPERTY BOUNDARIES SHOWN ON THIS MAP
ARE BASED ON AVAILABLE FURNISHED INFORMATION AND ARE APPROXIMATE ONLY AND
SHOULD NOT BE USED TO ESTABLISH PROPERTY BOUNDARY LOCATION IN THE FIELD.



SCALE 1" = 150'

envirollogic
environmental consulting + services
2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49008
PH: (269) 342-1100 FAX: (269) 342-4945

GREENWOOD OIL TERMINAL

298 GRATIOT BLVD
MARYSVILLE, MI

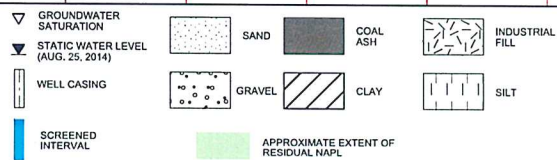
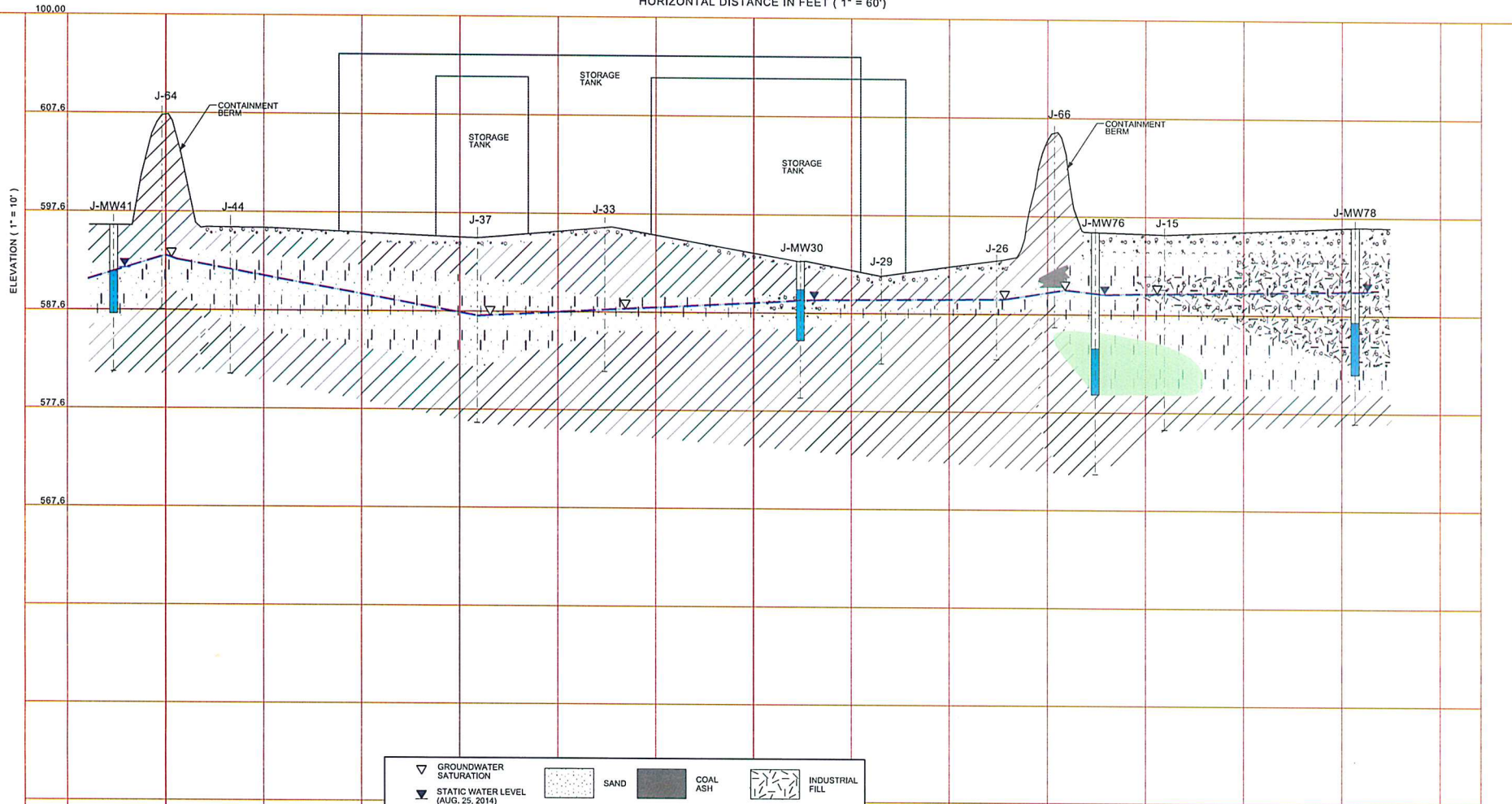
**VERTICAL EXTENT
OF NAPL BODY
(APPROXIMATE)**

PROJECT NO.
150323

FIGURE NO.

2

HORIZONTAL DISTANCE IN FEET (1" = 60')



envirollogic
environmental consulting + services
2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49048
PH: (269) 342-1100 FAX: (269) 342-4945

GREENWOOD OIL TERMINAL
298 GRATIOT BLVD
MARYSVILLE, MI
VERTICAL EXTENT OF NAPL BODY (APPROXIMATE)

PROJECT NO.
150323
FIGURE NO.
3

EXHIBIT 3

DESCRIPTION OF ALLOWABLE USES

Nonresidential Land Use: This land use is characterized by any use which is not residential in nature and is primarily characterized by industrial and commercial uses. Industrial uses typically involve manufacturing operations engaged in processing and manufacturing of materials or products. Other examples of industrial uses are utility companies, industrial research and development, and petroleum bulk storage. Commercial uses include any business or income-producing use such as commercial warehouses, lumber yards, retail gas stations, auto dealerships and service stations, as well as office buildings, banks, and medical/dental offices (not including hospitals). Commercial uses also include retail businesses whose principal activity is the sale of food or merchandise within an enclosed building and personal service establishments which perform services indoors such as health clubs, barber/beauty salons, photographic studios, etc.

Any residential use is specifically prohibited from the non-residential land use category. This would include the primary use of the property for human habitation and includes structures such as single family dwellings, multiple family structures, mobile homes, condominiums, and apartment buildings. Residential use is also characterized by any use which is intended to house, educate, or provide care for children, the elderly, the infirm, or other sensitive populations, and therefore could include day care centers, educational facilities, hospitals, elder care facilities, and nursing homes. The use of any accessory building or portion of an existing building as a dwelling unit permitted for a proprietor or storekeeper and their families, located in the same building as their place of occupation, or for a watchman or caretaker is also prohibited. Any authority that allows for residential use of the Property as a legal non-conforming is also restricted per the prohibitions contained in this restrictive covenant.