



August 4, 2017

Chris Saari  
Wisconsin Department of Natural Resources  
2501 Golf Course Road  
Ashland, WI 54806

Re: No Further Action Request  
St. Luke's Chequamegon Clinic  
22<sup>rd</sup> Avenue E and Lake Shore Drive, Ashland, WI 54806  
BRRTS #01-02-579815

Dear Chris:

On behalf of our client, St. Luke's Hospital, MSA Professional Services, Inc. (MSA) is requesting a review of the results of the recent investigation performed at this site, and a determination of whether the site meets the criteria to grant "No Further Action Required" status. A check for \$350.00 for a No Further Action review and letter is attached.

The site summary is listed below:

- On June 29, 2017, a stained area of soil with strong petroleum odors was uncovered by construction personnel during grading activities at the site. An area of approximately 150 square feet was visually identified as stained and had a strong petroleum odor. The soil was excavated until no further odors or staining were present. The contaminated material was stockpiled onsite on plastic sheeting and covered.
- On June 30, 2017, MSA responded to investigate the potentially contaminated soil encountered during construction activities on the property. MSA personnel arrived onsite and further assessed the extent of the excavation and did not identify additional petroleum odors or staining. MSA personnel also collected samples from the stockpile for field screening and laboratory analysis. Field screening detected concentrations of 287.9 ppm and 1,315 ppm from the north and south sides of the stockpile respectively. A characterization laboratory sample (SS-1) was collected using nitrile gloves and dedicated glassware, placed on ice and sent to ESC Lab Services in Mt. Juliet, Tennessee for analysis of volatile organic compounds (VOCs), diesel range organics (DRO) and gasoline range organics (GRO).

During the site visit on June 30, 2017, MSA personnel also observed an unknown petroleum product in a boring used by construction personnel to locate the natural gas utility line in the right-of-way of Lakeshore Drive. MSA documented the location and depth of the unknown petroleum product for future reference. Photos of the excavated area, the stockpile and the unknown petroleum product are included in the attached photographic log.

- Upon receipt of laboratory analytical analysis of soil sample SS-1, MSA reported a Hazardous Substance Discharge to the Wisconsin Department of Natural Resources (WDNR).

***Offices in Illinois, Iowa, Minnesota, and Wisconsin***

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1230 SOUTH BOULEVARD • BARABOO, WI 53913  
(608) 356-2771 • (800) 362-4505 • FAX: (608) 356-2770  
www.msa-ps.com

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- MSA personnel returned to the site on July 18, 2017, for confirmatory excavation sampling and further investigation of the unknown petroleum compound. After arriving onsite, MSA personnel were informed by the Site Superintendent that during the course of excavating the natural gas utility line, the extent of the unknown petroleum impacted soil had been determined to be limited to an area of two to four feet below ground surface (bgs) and extending approximately six inches outward from the initial boring. Construction personnel had excavated the unknown petroleum product and the surrounding soil to a depth of approximately two feet beneath the last visual detection. This resulted in the removal of approximately one cubic yard of impacted material that was added to the contaminated soil stockpile onsite.
- MSA personnel then collected four soil samples (NW-1, NE-1, SE-1 and SW-1) from the bottom of the excavation for field screening and laboratory analysis. Sidewall samples could not be collected due to the removal of the surrounding material for grading activities performed on the site. Soil screening results did not detect volatile organic compounds concentrations above background levels. The laboratory samples were collected using nitrile gloves and dedicated glassware, placed on ice and sent to ESC Lab Services in Mt. Juliet, Tennessee for analysis of volatile organic compounds (VOCs), diesel range organics (DRO) and gasoline range organics (GRO).
- On July 27, 2017, the contaminated soil stockpile was removed from the site for disposal at the Vonco Landfill in Duluth, MN.

### **Geology and Hydrogeology**

Subsurface materials at this site consisted of a brown to red silty clay and fill. The depth to bedrock is unknown. Local water supply appears to consist of surface water withdrawal from Lake Superior. The static water level on the site is expected to be approximately that of Lake Superior with highly variable perched groundwater conditions due to previous excavation and fill activities.

### **Soil Results**

Soil samples were screened for the presence of organic vapors with a Mini-Rae photoionization detector (PID) calibrated to a 100 ppm isobutylene standard. Organic vapors were only detected during the field screening in samples collected from the soil stockpile. A total of five soil samples were collected, one from the stockpile and four confirmatory samples, and submitted for laboratory analysis of VOCs, DRO and GRO. The results of this sampling has been compiled on an attached table – Attachment A.1. Soil Analytical Table.

The only VOC compounds detected above their laboratory method detection limits in the confirmatory soil samples were p-isopropyltoluene, n-propylbenzene and 1,2,4-trimethylbenzene in soil sample NE-1. The concentrations did not exceed a State residual contaminant level (RCL) for the groundwater pathway or direct contact.

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**Conclusions/Recommendations**

- The two areas of petroleum impacted soil were relatively shallow in depth and not located near either the closed underground storage tank location or the closed stained surface soils location on the property (BRRS # 03-02-185897 and #02-02-206947). Based on the location and depth, the petroleum contamination does not appear to be related to any of the historical contamination onsite.
- No organic vapors or physical evidence of contamination (stained soil, odors) were observed or detected in the soil sampling after the excavation.
- No soil contamination was detected in the soil analytical samples collected from the bottom of the excavation exceeded a generic residual contaminant level for dermal contact or groundwater.
- Based on this, MSA requests that a “No Further Action” determination be approved for the site for a “clean” closure, without a site specific soil standard exceedance for the property.

Please contact me with any questions. My direct phone number is 218-499-3184.

Sincerely,

MSA Professional Services, Inc.



Mark Davidson, P.G.  
Project Hydrogeologist

cc: Patrick Earley, P.E., St. Luke’s Hospital  
Brian Hegge, MSA

Attachments: Check for \$350 for DNR Review Fee  
WDNR form 4400-237 – Post Closure Modification Request  
A.1. Soil Analytical Table  
Figure 1 – Site Location Map  
Figure 2 – Site Layout Map  
Laboratory Report – ESC Lab Services, Mt. Juliet, TN  
Soil Disposal Manifest  
Photographic Log

**Attachment A.1. Soil Analytical Table - PVOC and Detected Compounds**  
**St. Luke's Chequamegon Clinic**  
**22nd Ave E and Lake Shore Drive, Ashland, WI**

SAMPLE/BORING #	SS-1	SE-1	SW-1	NE-1	NW-1		Soil RCLs (mg/kg)			
Soil Screening Level (ppm)	1315	0.2	0.2	0.1	0					
Date Collected	30-Jun-17	2-Nov-15	2-Nov-15	2-Nov-15	2-Nov-15					
DEPTH (ft BGS)	Stockpile	Surface	Surface	Surface	Surface					
SOIL TYPE	clay	clay	clay	clay	clay		March 2017 DNR Table	Background		
	<b>Soil Concentrations in mg/kg (ppm)</b>							Non-Industrial Direct Contact	Soil to GW	Surficial BTV
Benzene	<0.00146	<0.0593	<0.0554	<0.0637	<0.064		1.6	0.0051		
Ethylbenzene	0.118	<0.0593	<0.0554	<0.0637	<0.064		8.02	1.57		
Toluene	<0.00731	<0.296	<0.277	<0.319	<0.32		818	1.1072		
Total Xylenes*	2.76	<0.178	<0.166	<0.191	<0.192		260*	3.96*		
1,2,4-Trimethylbenzene	3.68	<0.0593	<0.0554	0.0678	<0.064		219	1.3821**		
1,3,5-Trimethylbenzene	1.69	<0.0593	<0.0554	<0.0637	<0.064		182	1.3821**		
Naphthalene	0.225	<0.296	<0.277	<0.319	<0.32		5.52	0.6582		
<b>Other Detected VOCs</b>										
N-Butylbenzene	<i>0.0814</i>	<0.0593	<0.0554	<0.0637	<0.064		108	0.6582		
Sec-Butylbenzene	0.0216	<0.0593	<0.0554	<0.0637	<0.064		145	NA		
Isopropylbenzene (Cumene)	0.034	<0.0593	<0.0554	<0.0637	<0.064		268	NA		
P-Isopropyltoluene	0.04	<0.0593	<0.0554	0.0758	<0.064		162	NA		
N-Propylbenzene	0.115	<0.0593	<0.0554	0.0689	<0.064		264	NA		
1,2,3-Trimethylbenzene	1.44	<0.0593	<0.0554	<0.0637	<0.064		293	NA		
DRO	94.5	10.3	52	<36.5	101		NA	NA		
GRO	129	<5.93	<5.54	<6.37	<6.4		NA	NA		
No. of Individual Exceedances (DC)										
Cumulative Hazard Index (DC)										
Cumulative Cancer Risk (DC)										

Notes:

NA = Not Applicable

\* = cumulative m-, p- and o-xylenes concentrations

\*\* = Cumulative 1,2,4- and 1,3,5-trimethylbenzene concentrations

Exceedance Highlights:

**BOLD** font indicates DC RCL exceedance, and BTV exceedance for metals.

*Italic* font indicates GW RCL Exceedance. Groundwater quality (> NR 140 ES) may be affected when GW RCLs are exceeded.

Blanks indicate parameter was not analyzed. Only compounds detected in at least one sample are included in table. See laboratory report for all results.

**Notice:** Use this form to request a **written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

#### Definitions

**"Property"** refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.

**"Liability Clarification"** refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55, Wis. Stats.

**"Technical Assistance"** refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.

**"Post-closure modification"** refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

#### Select the Correct Form

This form should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

**Do not use this form if one of the following applies:**

- Request for an **off-site liability exemption or clarification** for Property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure - GIS Registry Form 4400-202.

**All forms, publications and additional information are available on the internet at:** [dnr.wi.gov/topic/Brownfields/Pubs.html](http://dnr.wi.gov/topic/Brownfields/Pubs.html).

#### Instructions

1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located.

See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

**Technical Assistance, Environmental Liability  
Clarification or Post-Closure Modification Request**  
Form 4400-237 (R 9/15) Page 0 of 7

**Section 1. Contact and Recipient Information**

**Requester Information**

This is the person requesting technical assistance or a post-closure modification review, that his or her liability be clarified or a specialized agreement and is identified as the requester in Section 7. DNR will address its response letter to this person.

Last Name Earley	First Patrick	MI	Organization/ Business Name St. Luke's Hospital
Mailing Address 915 East 1st Street			City Duluth
			State MN
			ZIP Code 55805
Phone # (include area code) (218) 249-5664	Fax # (include area code)	Email Patrick.Earley@slhduluth.com	

The requester listed above: (select all that apply)

- Is currently the owner
- Is considering selling the Property
- Is renting or leasing the Property
- Is considering acquiring the Property
- Is a lender with a mortgagee interest in the Property
- Other. Explain the status of the Property with respect to the applicant:

**Contact Information (to be contacted with questions about this request)**

Select if same as requester

Contact Last Name Davidson	First Mark	MI	Organization/ Business Name MSA Professional Services, Inc.
Mailing Address 332 West Superior Street, Suite 600			City Duluth
			State MN
			ZIP Code 55802
Phone # (include area code) (218) 499-3184	Fax # (include area code) (218) 722-4548	Email mdavidson@msa-ps.com	

**Environmental Consultant (if applicable)**

Contact Last Name Same as contact above	First	MI	Organization/ Business Name
Mailing Address			City
			State
			ZIP Code
Phone # (include area code)	Fax # (include area code)	Email	

**Attorney (if applicable)**

Contact Last Name	First	MI	Organization/ Business Name
Mailing Address			City
			State
			ZIP Code
Phone # (include area code)	Fax # (include area code)	Email	

**Property Owner (if different from requester)**

Contact Last Name	First	MI	Organization/ Business Name
Mailing Address			City
			State
			ZIP Code
Phone # (include area code)	Fax # (include area code)	Email	

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**Section 2. Property Information**

Property Name St. Luke's Chequamegon Clinic		FID No. (if known)	
BRRTS No. (if known)	Parcel Identification Number 201-03304-0400		
Street Address Lake Shore Drive East	City Ashland	State WI	ZIP Code 54806
County Ashland	Municipality where the Property is located <input checked="" type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village of Ashland	Property is composed of: <input checked="" type="radio"/> Single tax parcel <input type="radio"/> Multiple tax parcels	Property Size Acres 6

1. Is a response needed by a specific date? (e.g., Property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.

- No  Yes

Date requested by: \_\_\_\_\_

Reason: \_\_\_\_\_

2. Is the "Requester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?

- No. **Include the fee that is required for your request in Section 3, 4 or 5.**  
 Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

**Fill out the information in Section 3, 4 or 5 which corresponds with the type of request:**

**Section 3. Technical Assistance or Post-Closure Modifications;  
Section 4. Liability Clarification; or Section 5. Specialized Agreement.**

**Section 3. Request for Technical Assistance or Post-Closure Modification**

Select the type of technical assistance requested: [Numbers in brackets are for WI DNR Use]

- No Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - **Include a fee of \$350.** Use for a written response to an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event.
- Review of Site Investigation Work Plan - NR 716.09, [135] - **Include a fee of \$700.**
- Review of Site Investigation Report - NR 716.15, [137] - **Include a fee of \$1050.**
- Approval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - **Include a fee of \$1050.**
- Review of a Remedial Action Options Report - NR 722.13, [143] - **Include a fee of \$1050.**
- Review of a Remedial Action Design Report - NR 724.09, [148] - **Include a fee of \$1050.**
- Review of a Remedial Action Documentation Report - NR 724.15, [152] - **Include a fee of \$350**
- Review of a Long-term Monitoring Plan - NR 724.17, [25] - **Include a fee of \$425.**
- Review of an Operation and Maintenance Plan - NR 724.13, [192] - **Include a fee of \$425.**

Other Technical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)

- Schedule a Technical Assistance Meeting - **Include a fee of \$700.**
- Hazardous Waste Determination - **Include a fee of \$700.**
- Other Technical Assistance - **Include a fee of \$700.** Explain your request in an attachment.

Post-Closure Modifications - NR 727, [181]

- Post-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; sites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. **Include a fee of \$1050, and:**
  - Include a fee of \$300 for sites with residual soil contamination; and
  - Include a fee of \$350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing obligations.

Attach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change to a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents may be submitted later in the approval process, on a case-by-case basis).

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Clarification or Post-Closure Modification Request**  
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**Skip Sections 4 and 5 if the technical assistance you are requesting is listed above and complete Sections 6 and 7 of this form.**

Clarification of local governmental unit (LGU) liability exemption at sites with: (select all that apply)

- hazardous substances spills - s. 292.11(9)(e), Wis. Stats. [649];
- Perceived environmental contamination - [649];
- hazardous waste - s. 292.24 (2), Wis. Stats. [649]; and/or
- solid waste - s. 292.23 (2), Wis. Stats. [649].

❖ **Include a fee of \$700, a summary of the environmental liability clarification being requested, and the following:**

- (1) clear supporting documentation showing the acquisition method used, and the steps followed under the appropriate state statute(s).
- (2) current and proposed ownership status of the Property;
- (3) date and means by which the Property was acquired by the LGU, where applicable;
- (4) a map and the ¼, ¼ section location of the Property;
- (5) summary of current uses of the Property;
- (6) intended or potential use(s) of the Property;
- (7) descriptions of other investigations that have taken place on the Property; and

Clarify the liability associated with a "closed" Property - s. 292.55, Wis. Stats. [682].  
(8) (for solid waste clarifications) a summary of the license history of the facility.

❖ **Include a fee of \$700.**

- Include a copy of any closure documents if a state agency other than DNR approved the closure.

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Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.



**Section 5. Request for a Specialized Agreement**

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: [dnr.wi.gov/topic/Brownfields/lgu.html#tabx4](http://dnr.wi.gov/topic/Brownfields/lgu.html#tabx4).

Tax cancellation agreement - s. 75.105(2)(d), Wis. Stats. [654]

❖ **Include a fee of \$700, and the information listed below:**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the Property deed with the correct legal description; and,
- (3) a draft 75.105 agreement based on the DNR's model ([dnr.wi.gov/topic/brownfields/documents/mod75-105agrmt.pdf](http://dnr.wi.gov/topic/brownfields/documents/mod75-105agrmt.pdf)).

Agreement for assignment of tax foreclosure judgement - s.75.106, Wis. Stats. [666]

❖ **Include a fee of \$700, and the information listed below:**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the Property deed with the correct legal description; and,
- (3) a draft 75.105 agreement based on the DNR's model ([dnr.wi.gov/topic/brownfields/documents/mod75-106agrmt.pdf](http://dnr.wi.gov/topic/brownfields/documents/mod75-106agrmt.pdf)).

Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]

❖ **Include a fee of \$1400, and the information listed below:**

- (1) a draft schedule for remediation; and,
- (2) the name, mailing address, phone and email for each party to the agreement.

**Section 6. Other Information Submitted**

Identify all materials that are included with this request.

**Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.**

Phase I Environmental Site Assessment Report - Date: \_\_\_\_\_

Phase II Environmental Site Assessment Report - Date: \_\_\_\_\_

Legal Description of Property (required for all liability requests and specialized agreements)

Map of the Property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

Groundwater     Soil     Sediment     Other medium - Describe: \_\_\_\_\_

Date of Collection: 07/18/2017

A copy of the closure letter and submittal materials

Draft tax cancellation agreement

Draft agreement for assignment of tax foreclosure judgment

Other report(s) or information - Describe: \_\_\_\_\_

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

Yes - Date (if known): 07/17/2017

No

Note: The Notification for Hazardous Substance Discharge (non-emergency) form is available at: [dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf](http://dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf).

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**Section 7. Certification by the Person who completed this form**

- I am the person submitting this request (requester)
- I prepared this request  
for: St. Luke's Hospital  
Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.



08/04/2017

Signature

Date Signed

Project Hydrologist

218-499-3184

Title

Telephone Number (include area code)

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**Section 8. DNR Contacts and Addresses for Request Submittals**

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a DNR regional brownfields specialist with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

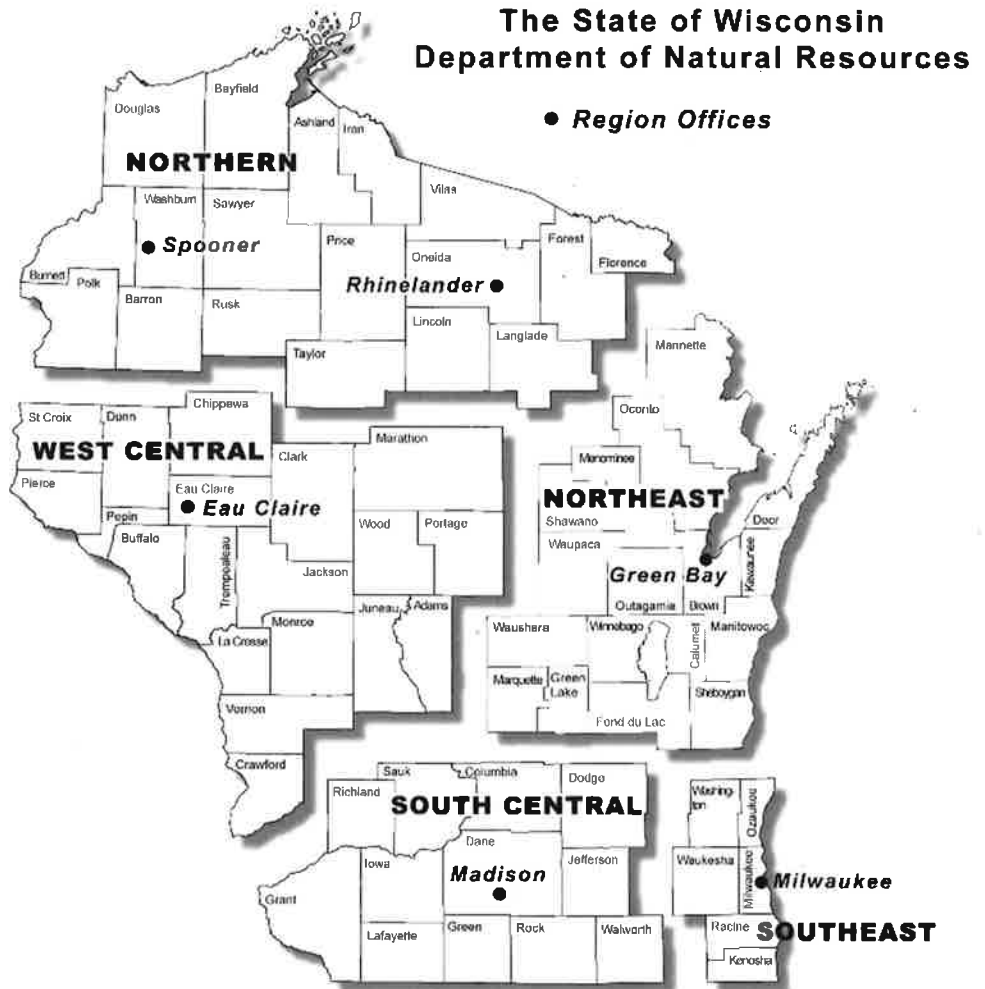
**DNR NORTHERN REGION**  
Attn: RR Program Assistant  
Department of Natural Resources  
223 E Steinfest Rd Antigo, WI 54409

**DNR NORTHEAST REGION**  
Attn: RR Program Assistant  
Department of Natural Resources  
2984 Shawano Avenue  
Green Bay WI 54313

**DNR SOUTH CENTRAL REGION**  
Attn: RR Program Assistant  
Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg WI 53711

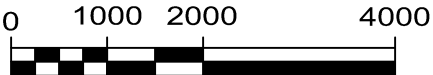
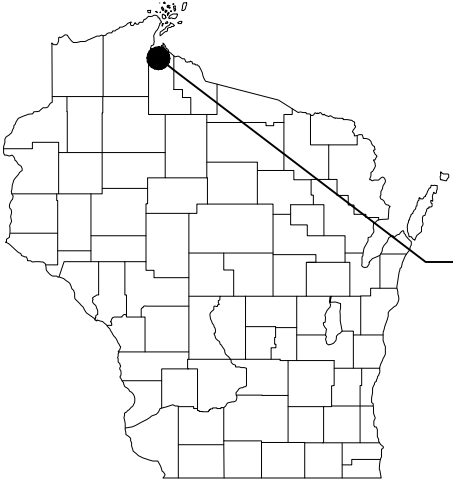
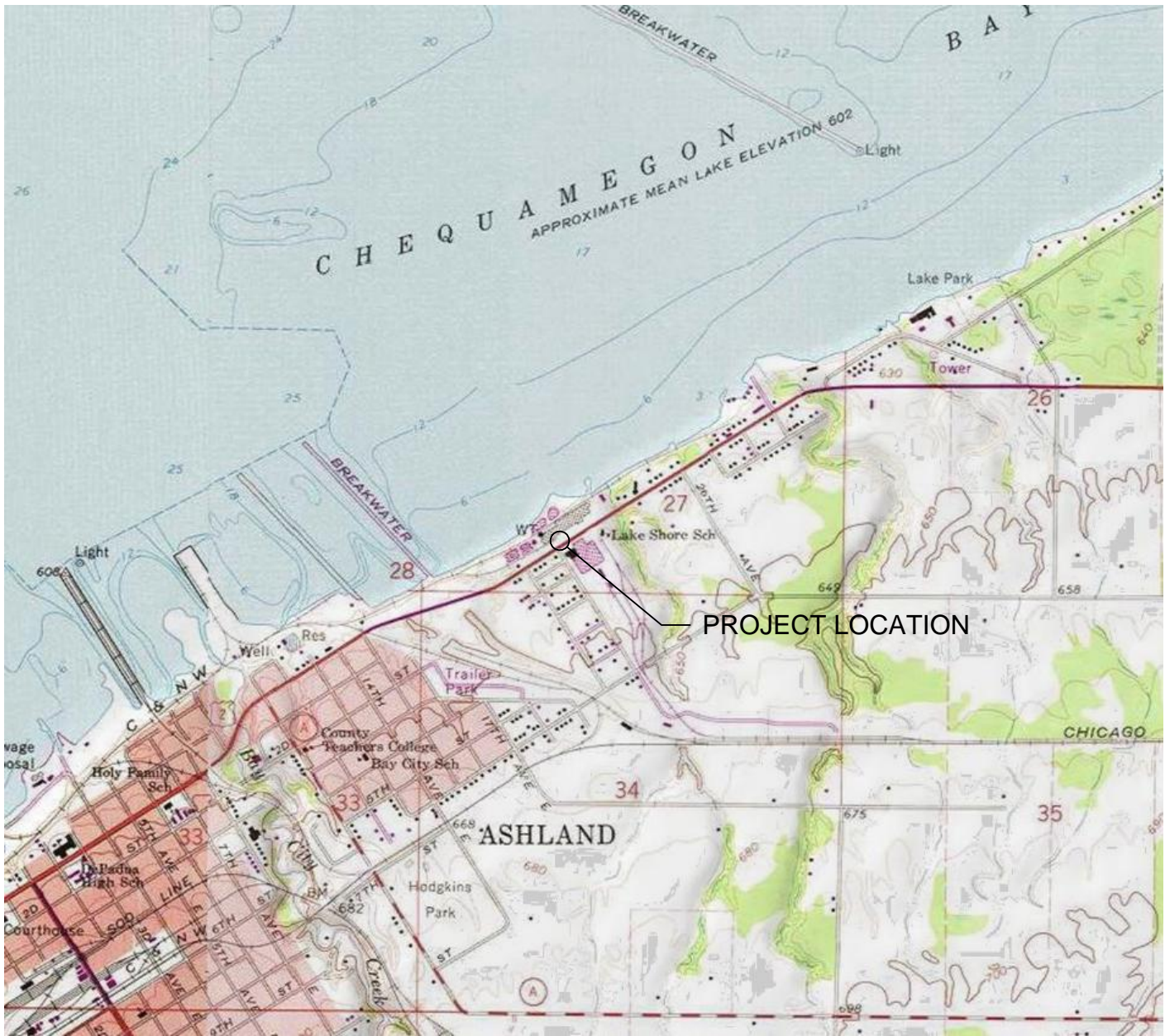
**DNR SOUTHEAST REGION**  
Attn: RR Program Assistant  
Department of Natural Resources  
2300 North Martin Luther King Drive  
Milwaukee WI 53212

**DNR WEST CENTRAL REGION**  
Attn: RR Program Assistant  
Department of Natural Resources  
1300 Clairemont Ave.  
Eau Claire WI 54702



*Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.*

<b>DNR Use Only</b>			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS No. (if used)
DNR Reviewer		Comments	
Fee Enclosed <input type="radio"/> Yes <input type="radio"/> No	Fee Amount \$	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		



Scale (Feet)

Ashland East Quadrangle  
(WI) - Ashland County  
7.5 Minute Series (Topographic)

Contour Interval 5 Feet  
1964

PhotoRevised 1975



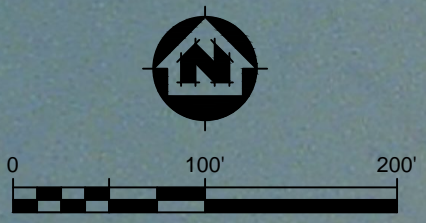
ARCHITECTURE | ENGINEERING | ENVIRONMENTAL  
FUNDING | PLANNING | SURVEYING  
332 W Superior Street #600 Duluth, MN 55802  
(218) 722-3915 (800) 777-7380  
www.msa-ps.com  
© MSA Professional Services, Inc.

Figure 1  
Site Location Map

ST. LUKE'S CLINIC - ASHLAND DEVELOPMENT  
ASHLAND, WI

FILE NO.  
18504000  
SHEET  
F1

File Name: P:\18504\18504\_18504\18504000002\Environmental\Figures\18504000000\_SitesLocating



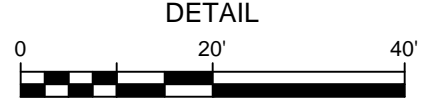
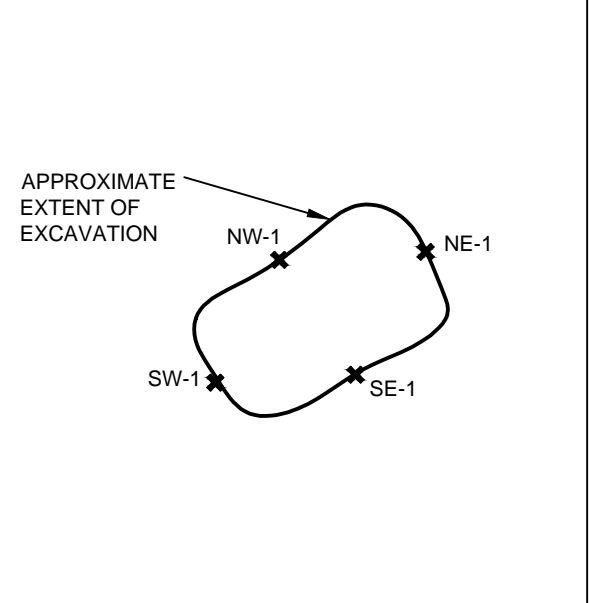
LAKE  
SUPERIOR

LAKESHORE DR. E.

SEE DETAIL

APPROXIMATE  
EXTENT OF  
EXCAVATION

UNKNOWN  
PETROLEUM  
PRODUCT  
ENCOUNTERED  
JUNE 30, 2017



DETAIL

LEGEND

SW-1 ✕ EXCAVATION SAMPLE

Figure 2  
Site Layout Map

ST. LUKE'S CLINIC - ASHLAND DEVELOPMENT

ASHLAND, WI



ARCHITECTURE | ENGINEERING | ENVIRONMENTAL  
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CHECKED BY	MD	SCALE	AS SHOWN	FILE NO.	18504000

July 14, 2017

## MSA Professional Services

Sample Delivery Group: L920290  
Samples Received: 07/05/2017  
Project Number: 18504000  
Description: St. Lukes - Ashland

Report To: Mark Davidson  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:



John Hawkins

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



<b>Cp: Cover Page</b>	<b>1</b>	<b><sup>1</sup>Cp</b>
<b>Tc: Table of Contents</b>	<b>2</b>	<b><sup>2</sup>Tc</b>
<b>Ss: Sample Summary</b>	<b>3</b>	<b><sup>3</sup>Ss</b>
<b>Cn: Case Narrative</b>	<b>4</b>	<b><sup>4</sup>Cn</b>
<b>Sr: Sample Results</b>	<b>5</b>	<b><sup>5</sup>Sr</b>
<b>SS-1 L920290-01</b>	<b>5</b>	<b><sup>6</sup>Qc</b>
<b>Qc: Quality Control Summary</b>	<b>7</b>	<b><sup>7</sup>Gl</b>
<b>Total Solids by Method 2540 G-2011</b>	<b>7</b>	<b><sup>8</sup>Al</b>
<b>Volatile Organic Compounds (GC) by Method WI(95) GRO</b>	<b>8</b>	<b><sup>9</sup>Sc</b>
<b>Volatile Organic Compounds (GC/MS) by Method 8260B</b>	<b>9</b>	
<b>Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO</b>	<b>13</b>	
<b>Gl: Glossary of Terms</b>	<b>14</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>15</b>	
<b>Sc: Chain of Custody</b>	<b>16</b>	

# SAMPLE SUMMARY



SS-1 L920290-01 Solid

Collected by  
Mark Davidson

Collected date/time  
06/30/17 16:00

Received date/time  
07/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG996176	1	07/06/17 13:44	07/06/17 13:57	KDW
Volatile Organic Compounds (GC) by Method WI(95) GRO	WG997245	50	07/08/17 08:29	07/10/17 11:26	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997067	1	07/08/17 08:29	07/09/17 00:00	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997067	25	07/08/17 08:29	07/11/17 23:43	ACG
Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO	WG995546	1	07/06/17 13:53	07/06/17 22:40	ACM

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

John Hawkins  
Technical Service Representative

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Collected date/time: 06/30/17 16:00

L920290

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	68.4	J3	1	07/06/2017 13:57	WG996176

Volatile Organic Compounds (GC) by Method WI(95) GRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	129		7.31	50	07/10/2017 11:26	WG997245
(S) a,a,a-Trifluorotoluene(PID)	123		80.0-200		07/10/2017 11:26	WG997245

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		1.83	25	07/11/2017 23:43	WG997067
Acrylonitrile	ND		0.0146	1	07/09/2017 00:00	WG997067
Allyl chloride	ND		0.00731	1	07/09/2017 00:00	WG997067
Benzene	ND		0.00146	1	07/09/2017 00:00	WG997067
Bromobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
Bromochloromethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Bromodichloromethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Bromoform	ND		0.00146	1	07/09/2017 00:00	WG997067
Bromomethane	ND		0.00731	1	07/09/2017 00:00	WG997067
n-Butylbenzene	0.0814		0.00146	1	07/09/2017 00:00	WG997067
sec-Butylbenzene	0.0216		0.00146	1	07/09/2017 00:00	WG997067
tert-Butylbenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
Carbon tetrachloride	ND		0.00146	1	07/09/2017 00:00	WG997067
Chlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
Chlorodibromomethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Chloroethane	ND		0.00731	1	07/09/2017 00:00	WG997067
Chloroform	ND		0.00731	1	07/09/2017 00:00	WG997067
Chloromethane	ND		0.00366	1	07/09/2017 00:00	WG997067
2-Chlorotoluene	ND		0.00146	1	07/09/2017 00:00	WG997067
4-Chlorotoluene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,2-Dibromo-3-Chloropropane	ND		0.00731	1	07/09/2017 00:00	WG997067
1,2-Dibromoethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Dibromomethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,2-Dichlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,3-Dichlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,4-Dichlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
Dichlorodifluoromethane	ND		0.00731	1	07/09/2017 00:00	WG997067
1,1-Dichloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,2-Dichloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1-Dichloroethene	ND		0.00146	1	07/09/2017 00:00	WG997067
cis-1,2-Dichloroethene	ND		0.00146	1	07/09/2017 00:00	WG997067
trans-1,2-Dichloroethene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,2-Dichloropropane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1-Dichloropropene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,3-Dichloropropane	ND		0.00146	1	07/09/2017 00:00	WG997067
cis-1,3-Dichloropropene	ND		0.00146	1	07/09/2017 00:00	WG997067
trans-1,3-Dichloropropene	ND		0.00146	1	07/09/2017 00:00	WG997067
2,2-Dichloropropane	ND		0.00146	1	07/09/2017 00:00	WG997067
Di-isopropyl ether	ND		0.00146	1	07/09/2017 00:00	WG997067
Ethylbenzene	0.118		0.00146	1	07/09/2017 00:00	WG997067
Ethyl ether	ND		0.00146	1	07/09/2017 00:00	WG997067
Hexachloro-1,3-butadiene	ND		0.00146	1	07/09/2017 00:00	WG997067
2-Hexanone	ND		0.0146	1	07/09/2017 00:00	WG997067
Isopropylbenzene	0.0340		0.00146	1	07/09/2017 00:00	WG997067

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Collected date/time: 06/30/17 16:00

L920290

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	0.0400		0.00146	1	07/09/2017 00:00	WG997067
2-Butanone (MEK)	ND		0.0146	1	07/09/2017 00:00	WG997067
Methylene Chloride	ND		0.00731	1	07/09/2017 00:00	WG997067
4-Methyl-2-pentanone (MIBK)	ND		0.0146	1	07/09/2017 00:00	WG997067
Methyl tert-butyl ether	ND		0.00146	1	07/09/2017 00:00	WG997067
Naphthalene	0.225		0.00731	1	07/09/2017 00:00	WG997067
n-Propylbenzene	0.115		0.00146	1	07/09/2017 00:00	WG997067
Styrene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1,1,2-Tetrachloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1,2,2-Tetrachloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1,2-Trichlorotrifluoroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Tetrachloroethene	ND		0.00146	1	07/09/2017 00:00	WG997067
Tetrahydrofuran	ND		0.00731	1	07/09/2017 00:00	WG997067
Toluene	ND		0.00731	1	07/09/2017 00:00	WG997067
1,2,3-Trichlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,2,4-Trichlorobenzene	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1,1-Trichloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
1,1,2-Trichloroethane	ND		0.00146	1	07/09/2017 00:00	WG997067
Trichloroethene	ND		0.00146	1	07/09/2017 00:00	WG997067
Trichlorofluoromethane	ND		0.00731	1	07/09/2017 00:00	WG997067
1,2,3-Trichloropropane	ND		0.00366	1	07/09/2017 00:00	WG997067
1,2,4-Trimethylbenzene	3.68		0.0366	25	07/11/2017 23:43	WG997067
1,2,3-Trimethylbenzene	1.44		0.0366	25	07/11/2017 23:43	WG997067
1,3,5-Trimethylbenzene	1.69		0.0366	25	07/11/2017 23:43	WG997067
Vinyl chloride	ND		0.00146	1	07/09/2017 00:00	WG997067
Xylenes, Total	2.76		0.110	25	07/11/2017 23:43	WG997067
(S) Toluene-d8	103		80.0-120		07/11/2017 23:43	WG997067
(S) Toluene-d8	62.4	J2	80.0-120		07/09/2017 00:00	WG997067
(S) Dibromofluoromethane	102		74.0-131		07/09/2017 00:00	WG997067
(S) Dibromofluoromethane	96.8		74.0-131		07/11/2017 23:43	WG997067
(S) 4-Bromofluorobenzene	67.5		64.0-132		07/09/2017 00:00	WG997067
(S) 4-Bromofluorobenzene	84.6		64.0-132		07/11/2017 23:43	WG997067

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method W1(95) DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	94.5	J3 J5	11.7	1	07/06/2017 22:40	WG995546
(S) Triacontane	98.3		10.0-160		07/06/2017 22:40	WG995546



Method Blank (MB)

(MB) R3231541-1 07/06/17 13:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L920290-01 Original Sample (OS) • Duplicate (DUP)

(OS) L920290-01 07/06/17 13:57 • (DUP) R3231541-3 07/06/17 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	68.4	75.1	1	9.34	<u>J3</u>	5

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3231541-2 07/06/17 13:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3232659-3 07/10/17 10:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
TPH (GC/FID) Low Fraction	U		0.0110	0.100
(S) a,a,a-Trifluorotoluene(PID)				80.0-200

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3232659-2 07/10/17 09:51 • (LCSD) R3232659-9 07/10/17 17:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
TPH (GC/FID) Low Fraction	0.550	0.525	0.514	95.5	93.4	80.0-120			2.14	20
(S) a,a,a-Trifluorotoluene(PID)				94.9	97.6	80.0-200				

5 Sr

6 Qc

L920549-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L920549-01 07/10/17 11:49 • (MS) R3232659-5 07/10/17 16:17 • (MSD) R3232659-7 07/10/17 16:41

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
TPH (GC/FID) Low Fraction	0.632	ND	32.2	33.2	84.1	87.4	50	80.0-120			3.14	20
(S) a,a,a-Trifluorotoluene(PID)					96.9	97.8		80.0-200				

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3232351-6 07/08/17 19:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromochloromethane	U		0.000390	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Ethyl ether	U		0.000389	0.00100

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3232351-6 07/08/17 19:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexachloro-1,3-butadiene	U		0.000342	0.00100
2-Hexanone	U		0.00137	0.0100
Isopropylbenzene	U		0.000243	0.00100
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Tetrahydrofuran	U		0.00113	0.00500
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
Allyl Chloride	U		0.00150	0.00500
(S) Toluene-d8	102			80.0-120
(S) Dibromofluoromethane	99.6			74.0-131
(S) 4-Bromofluorobenzene	95.8			64.0-132

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3232351-1 07/08/17 17:15 • (LCSD) R3232351-2 07/08/17 17:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.108	0.103	86.2	82.0	11.0-160			4.98	23
Acrylonitrile	0.125	0.111	0.104	88.9	83.3	61.0-143			6.48	20
Benzene	0.0250	0.0273	0.0272	109	109	71.0-124			0.280	20
Bromobenzene	0.0250	0.0244	0.0247	97.5	98.8	78.0-120			1.29	20
Bromodichloromethane	0.0250	0.0244	0.0242	97.6	96.8	75.0-120			0.920	20
Bromochloromethane	0.0250	0.0269	0.0267	108	107	80.0-121			1.08	20
Bromoform	0.0250	0.0221	0.0221	88.5	88.4	65.0-133			0.140	20
Bromomethane	0.0250	0.0253	0.0239	101	95.5	26.0-160			5.75	20
n-Butylbenzene	0.0250	0.0264	0.0267	106	107	73.0-126			1.10	20
sec-Butylbenzene	0.0250	0.0253	0.0254	101	102	75.0-121			0.560	20
tert-Butylbenzene	0.0250	0.0243	0.0245	97.2	98.0	74.0-122			0.830	20
Carbon tetrachloride	0.0250	0.0250	0.0246	100	98.3	66.0-123			1.87	20
Chlorobenzene	0.0250	0.0259	0.0263	104	105	79.0-121			1.48	20
Chlorodibromomethane	0.0250	0.0228	0.0233	91.3	93.0	74.0-128			1.91	20
Chloroethane	0.0250	0.0264	0.0230	106	92.0	51.0-147			13.7	20
Chloroform	0.0250	0.0261	0.0259	104	103	73.0-123			0.840	20
Chloromethane	0.0250	0.0264	0.0255	106	102	51.0-138			3.60	20
2-Chlorotoluene	0.0250	0.0253	0.0256	101	102	72.0-124			0.810	20
4-Chlorotoluene	0.0250	0.0254	0.0257	101	103	78.0-120			1.45	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0207	0.0194	83.0	77.5	65.0-126			6.76	20
1,2-Dibromoethane	0.0250	0.0240	0.0241	95.8	96.3	78.0-122			0.500	20
Dibromomethane	0.0250	0.0243	0.0235	97.1	94.1	79.0-120			3.11	20
1,2-Dichlorobenzene	0.0250	0.0254	0.0257	102	103	80.0-120			0.960	20
1,3-Dichlorobenzene	0.0250	0.0244	0.0242	97.6	97.0	72.0-123			0.640	20
1,4-Dichlorobenzene	0.0250	0.0251	0.0250	101	100	77.0-120			0.410	20
Dichlorodifluoromethane	0.0250	0.0293	0.0291	117	116	49.0-155			0.800	20
1,1-Dichloroethane	0.0250	0.0269	0.0266	107	106	70.0-128			0.920	20
1,2-Dichloroethane	0.0250	0.0230	0.0227	92.0	90.8	69.0-128			1.33	20
1,1-Dichloroethene	0.0250	0.0280	0.0278	112	111	63.0-131			0.920	20
cis-1,2-Dichloroethene	0.0250	0.0278	0.0276	111	110	74.0-123			0.530	20
trans-1,2-Dichloroethene	0.0250	0.0277	0.0274	111	110	72.0-122			1.23	20
1,2-Dichloropropane	0.0250	0.0254	0.0253	101	101	75.0-126			0.110	20
1,1-Dichloropropene	0.0250	0.0277	0.0273	111	109	72.0-130			1.39	20
1,3-Dichloropropane	0.0250	0.0243	0.0244	97.3	97.7	80.0-121			0.420	20
cis-1,3-Dichloropropene	0.0250	0.0248	0.0248	99.2	99.2	80.0-125			0.0300	20
trans-1,3-Dichloropropene	0.0250	0.0237	0.0234	94.7	93.4	75.0-129			1.40	20
2,2-Dichloropropane	0.0250	0.0278	0.0268	111	107	60.0-129			3.66	20
Di-isopropyl ether	0.0250	0.0226	0.0223	90.5	89.2	62.0-133			1.39	20
Ethylbenzene	0.0250	0.0260	0.0265	104	106	77.0-120			1.74	20
Ethyl ether	0.0250	0.0233	0.0225	93.0	90.0	63.0-129			3.25	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3232351-1 07/08/17 17:15 • (LCSD) R3232351-2 07/08/17 17:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hexachloro-1,3-butadiene	0.0250	0.0242	0.0245	96.6	98.1	68.0-128			1.47	20
2-Hexanone	0.125	0.0880	0.0857	70.4	68.6	61.0-143			2.59	20
Isopropylbenzene	0.0250	0.0254	0.0254	102	102	75.0-120			0.180	20
p-Isopropyltoluene	0.0250	0.0241	0.0242	96.3	96.8	74.0-125			0.450	20
2-Butanone (MEK)	0.125	0.0730	0.0703	58.4	56.2	37.0-159			3.81	20
Methylene Chloride	0.0250	0.0245	0.0241	97.9	96.3	67.0-123			1.70	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0797	0.0767	63.8	61.4	60.0-144			3.88	20
Methyl tert-butyl ether	0.0250	0.0252	0.0241	101	96.5	66.0-125			4.46	20
Naphthalene	0.0250	0.0216	0.0216	86.3	86.3	64.0-125			0.0100	20
n-Propylbenzene	0.0250	0.0260	0.0261	104	105	78.0-120			0.330	20
Styrene	0.0250	0.0226	0.0226	90.4	90.4	78.0-124			0.0500	20
1,1,1,2-Tetrachloroethane	0.0250	0.0240	0.0243	96.1	97.1	74.0-124			1.00	20
1,1,2,2-Tetrachloroethane	0.0250	0.0224	0.0221	89.6	88.5	73.0-120			1.24	20
Tetrachloroethene	0.0250	0.0248	0.0254	99.3	101	70.0-127			2.09	20
Tetrahydrofuran	0.0250	0.0163	0.0174	65.0	69.6	49.0-140			6.85	21
Toluene	0.0250	0.0261	0.0261	104	104	77.0-120			0.190	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0274	0.0272	110	109	64.0-135			0.790	20
1,2,3-Trichlorobenzene	0.0250	0.0231	0.0235	92.5	93.9	68.0-126			1.48	20
1,2,4-Trichlorobenzene	0.0250	0.0236	0.0230	94.6	92.2	70.0-127			2.54	20
1,1,1-Trichloroethane	0.0250	0.0260	0.0256	104	102	69.0-125			1.73	20
1,1,2-Trichloroethane	0.0250	0.0239	0.0243	95.7	97.3	78.0-120			1.59	20
Trichloroethene	0.0250	0.0269	0.0268	108	107	79.0-120			0.420	20
Trichlorofluoromethane	0.0250	0.0255	0.0251	102	101	59.0-136			1.53	20
1,2,3-Trichloropropane	0.0250	0.0225	0.0214	90.1	85.7	73.0-124			5.08	20
1,2,3-Trimethylbenzene	0.0250	0.0256	0.0260	103	104	76.0-120			1.51	20
1,2,4-Trimethylbenzene	0.0250	0.0248	0.0247	99.0	98.8	75.0-120			0.260	20
1,3,5-Trimethylbenzene	0.0250	0.0245	0.0247	98.0	98.7	75.0-120			0.730	20
Vinyl chloride	0.0250	0.0290	0.0283	116	113	63.0-134			2.58	20
Xylenes, Total	0.0750	0.0774	0.0780	103	104	77.0-120			0.770	20
(S) Toluene-d8				101	101	80.0-120				
(S) Dibromofluoromethane				102	100	74.0-131				
(S) 4-Bromofluorobenzene				94.1	94.6	64.0-132				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3231706-1 07/06/17 20:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		1.58	8.00
(S) <i>Triacontane</i>	93.2			10.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3231706-2 07/06/17 20:14 • (LCSD) R3231706-5 07/07/17 00:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	40.0	35.9	33.7	89.9	84.2	70.0-120			6.52	20
(S) <i>Triacontane</i>				96.9	97.1	10.0-160				

L920290-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L920290-01 07/06/17 22:40 • (MS) R3231706-3 07/06/17 22:51 • (MSD) R3231706-4 07/06/17 23:02

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	58.5	94.5	135	175	69.3	138	1	40.0-101		J3 J5	25.8	25
(S) <i>Triacontane</i>					88.8	90.9		10.0-160				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL (dry)	Reported Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier Description

J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.  
 \* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina <sup>1</sup>	DW21704
Florida	E87487	North Carolina <sup>2</sup>	41
Georgia	NELAP	North Dakota	R-140
Georgia <sup>1</sup>	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky <sup>1</sup>	90010	South Dakota	n/a
Kentucky <sup>2</sup>	16	Tennessee <sup>14</sup>	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

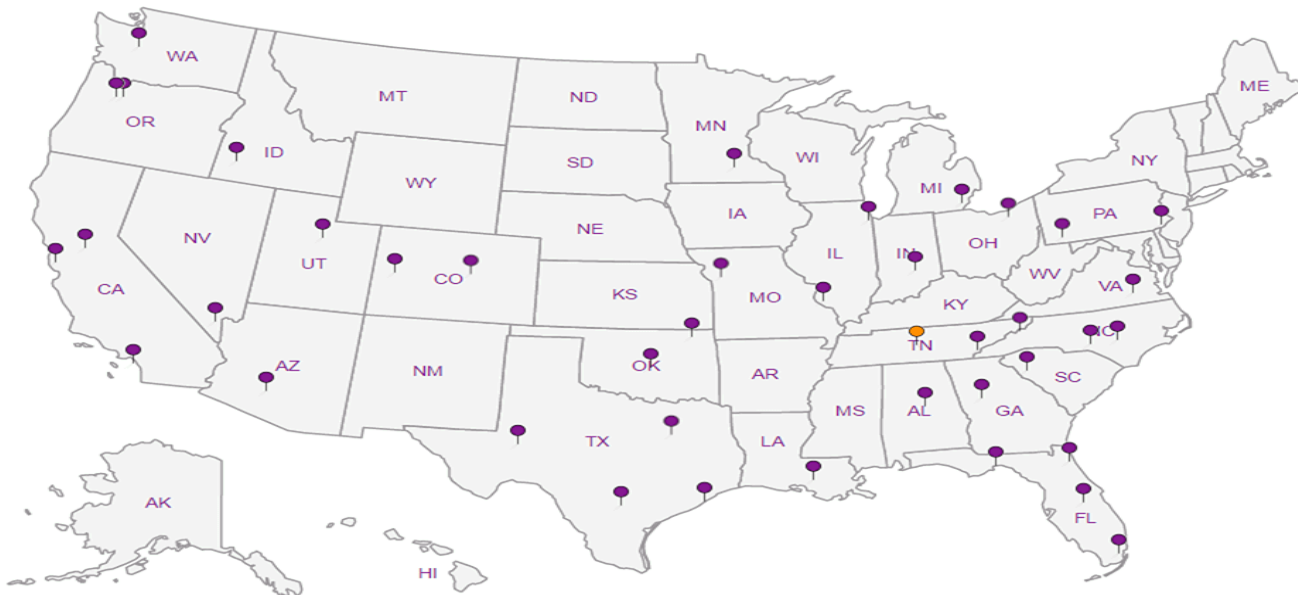
## Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>n/a</sup> Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

**MSA Professional Services**

332 W. Superior Street, Suite 600  
Duluth, MN 55802

Billing Information:  
332 W. Superior St, Ste. 600  
Duluth, MN 55802

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page    of   



YOUR LAB OF CHOICE

17065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



Report to:  
**MARK DAVIDSON**

Email To:  
**mdavidson@msa-ps.com**

Project Description: **St. Lukes - Ashland**

City/State Collected: **Ashland, WI**

Phone: **218-722-3915**  
Fax: **218-722-4548**

Client Project #

Lab Project #

Collected by (print):  
**MARK DAVIDSON**

Site/Facility ID #

P.O. #

Collected by (signature):

**Rush? (Lab MUST Be Notified)**

Quote #

Same Day .....200%  
Next Day .....100%  
Two Day .....50%  
Three Day .....25%

Date Results Needed

No.  
of  
Cntrs

Immediately  
Packed on Ice N    Y   

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis	Container	Preservative
SS-1	C	SS	-	6/30/17	1600	3	X	A	

L# **1920290**

**F135**

Acctnum: **MSAPRODMN**  
Template:  
Prelogin:  
TSR: **341 - John Hawkins**  
PB:

Shipped Via:  
Rem./Contaminant Sample # (lab only)

\* Matrix:  
SS - Soil AIR - Air  
GW - Groundwater  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks: **HOLD sample for TCLP/METALS - DO NOT RUN UNTIL AUTHORIZED**

Sample Receipt Check/Cat	
COC Seal Present/Intact:	MP <u>  </u> Y <u>  </u> N <u>  </u>
COC Signed/Accurate:	<u>  </u> Y <u>  </u> N <u>  </u>
Bottles arrive intact:	<u>  </u> Y <u>  </u> N <u>  </u>
Correct bottles used:	<u>  </u> Y <u>  </u> N <u>  </u>
Sufficient volume sent:	<u>  </u> Y <u>  </u> N <u>  </u>
If Applicable	
VDA Zero Headpace:	<u>  </u> Y <u>  </u> N <u>  </u>
Preservation Correct/Checked:	<u>  </u> Y <u>  </u> N <u>  </u>

Samples returned via:    UPS    FedEx    Courier   

Tracking # **7215 4516 9583**

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes/No
<i>[Signature]</i>	7/2/17	1500		HCL / MeOH TBR
				Temp: 10.12 °C Bottles Received: 1011 3
				Date: 7-1-2017 Time: 0845

If preservation required by Login: Date/Time  
Hold:  
Condition: **NCF / OK**

**Troy Dunlap**

**ESC Lab Sciences**  
**Non-Conformance Form**

<b>Login #:</b> L920290	<b>Client:</b> MSAPRODMN	<b>Date:</b> 7/5/17	<b>Evaluated by:</b> Troy Dunlap
-------------------------	--------------------------	---------------------	----------------------------------

**Non-Conformance (check applicable items)**

	<b>Sample Integrity</b>	<b>Chain of Custody Clarification</b>	
	Parameter(s) past holding time	Login Clarification Needed	<b>If Broken Container:</b>
X	Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
	Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
	Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
	Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
	Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
	Vials received with headspace.	Trip Blank not received.	<b>If no Chain of Custody:</b>
	Broken container	Client did not "X" analysis.	Received by:
	Broken container:	Chain of Custody is missing	Date/Time:
	Sufficient sample remains		Temp./Cont. Rec./pH:
			Carrier:
			Tracking#

**Login Comments:** Received out of temperature at 10.1°C. Ice Melted.

<b>Client informed by:</b>	Call	Email	Voice Mail	<b>Date:</b> 7-5-17	<b>Time:</b> 10:45
<b>TSR Initials:</b> JVH	<b>Client Contact:</b> Mark Davidison				

**Login Instructions:**

Client says run and qualify

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

Notice: This communication and any attached files may contain privileged or other confidential information. If

July 27, 2017

## MSA Professional Services

Sample Delivery Group: L923556  
Samples Received: 07/19/2017  
Project Number: 18504000  
Description: St Lukes Ashland

Report To: Mark Davidson  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:












John Hawkins

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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# SAMPLE SUMMARY



## SE-1 L923556-01 Solid

Collected by: Mark Davidson  
 Collected date/time: 07/18/17 11:15  
 Received date/time: 07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1000996	1	07/24/17 13:42	07/24/17 13:57	MLW
Volatile Organic Compounds (GC) by Method WI(95) GRO	WG1001988	50	07/22/17 08:16	07/24/17 10:48	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001782	50	07/22/17 08:16	07/25/17 15:46	BMB
Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO	WG1001546	1	07/21/17 19:53	07/22/17 12:46	ACM

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

## SW-1 L923556-02 Solid

Collected by: Mark Davidson  
 Collected date/time: 07/18/17 11:20  
 Received date/time: 07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1000996	1	07/24/17 13:42	07/24/17 13:57	MLW
Volatile Organic Compounds (GC) by Method WI(95) GRO	WG1001988	50	07/22/17 08:16	07/24/17 11:12	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001782	50	07/22/17 08:16	07/25/17 16:03	BMB
Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO	WG1001546	4.3	07/21/17 19:53	07/22/17 16:12	ACM

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

## NE-1 L923556-03 Solid

Collected by: Mark Davidson  
 Collected date/time: 07/18/17 11:25  
 Received date/time: 07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1000996	1	07/24/17 13:42	07/24/17 13:57	MLW
Volatile Organic Compounds (GC) by Method WI(95) GRO	WG1001988	50	07/22/17 08:16	07/24/17 11:35	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001782	50	07/22/17 08:16	07/25/17 16:21	BMB
Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO	WG1001546	3.58	07/21/17 19:53	07/22/17 15:49	ACM

<sup>9</sup> Sc

## NW-1 L923556-04 Solid

Collected by: Mark Davidson  
 Collected date/time: 07/18/17 11:30  
 Received date/time: 07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1000996	1	07/24/17 13:42	07/24/17 13:57	MLW
Volatile Organic Compounds (GC) by Method WI(95) GRO	WG1001988	50	07/22/17 08:16	07/24/17 11:59	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001782	50	07/22/17 08:16	07/25/17 16:39	BMB
Semi-Volatile Organic Compounds (GC) by Method WI(95) DRO	WG1001546	3.23	07/21/17 19:53	07/22/17 16:01	ACM



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

John Hawkins  
Technical Service Representative

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.3		1	07/24/2017 13:57	<a href="#">WG1000996</a>

## Volatile Organic Compounds (GC) by Method WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	ND		5.93	50	07/24/2017 10:48	<a href="#">WG1001988</a>
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-200		07/24/2017 10:48	<a href="#">WG1001988</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		2.96	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Acrylonitrile	ND		0.593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Allyl chloride	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Benzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Bromobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Bromochloromethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Bromodichloromethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Bromoform	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Bromomethane	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
n-Butylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
sec-Butylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
tert-Butylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Carbon tetrachloride	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Chlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Chlorodibromomethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Chloroethane	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Chloroform	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Chloromethane	ND		0.148	50	07/25/2017 15:46	<a href="#">WG1001782</a>
2-Chlorotoluene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
4-Chlorotoluene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2-Dibromo-3-Chloropropane	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2-Dibromoethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Dibromomethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2-Dichlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,3-Dichlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,4-Dichlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Dichlorodifluoromethane	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1-Dichloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2-Dichloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1-Dichloroethene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
cis-1,2-Dichloroethene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
trans-1,2-Dichloroethene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2-Dichloropropane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1-Dichloropropene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,3-Dichloropropane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
cis-1,3-Dichloropropene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
trans-1,3-Dichloropropene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
2,2-Dichloropropane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Di-isopropyl ether	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Ethylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Ethyl ether	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Hexachloro-1,3-butadiene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
2-Hexanone	ND		0.593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Isopropylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/17 11:15

L923556

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
2-Butanone (MEK)	ND		0.593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Methylene Chloride	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
4-Methyl-2-pentanone (MIBK)	ND		0.593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Methyl tert-butyl ether	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Naphthalene	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
n-Propylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Styrene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1,1,2-Tetrachloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1,2,2-Tetrachloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1,2-Trichlorotrifluoroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Tetrachloroethene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Tetrahydrofuran	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Toluene	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2,3-Trichlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2,4-Trichlorobenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1,1-Trichloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,1,2-Trichloroethane	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Trichloroethene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Trichlorofluoromethane	ND		0.296	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2,3-Trichloropropane	ND		0.148	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2,4-Trimethylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,2,3-Trimethylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
1,3,5-Trimethylbenzene	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Vinyl chloride	ND		0.0593	50	07/25/2017 15:46	<a href="#">WG1001782</a>
Xylenes, Total	ND		0.178	50	07/25/2017 15:46	<a href="#">WG1001782</a>
(S) Toluene-d8	103		80.0-120		07/25/2017 15:46	<a href="#">WG1001782</a>
(S) Dibromofluoromethane	102		74.0-131		07/25/2017 15:46	<a href="#">WG1001782</a>
(S) 4-Bromofluorobenzene	106		64.0-132		07/25/2017 15:46	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method W1(95) DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	10.3		9.49	1	07/22/2017 12:46	<a href="#">WG1001546</a>
(S) Triacontane	103		10.0-160		07/22/2017 12:46	<a href="#">WG1001546</a>



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.3		1	07/24/2017 13:57	<a href="#">WG1000996</a>

## Volatile Organic Compounds (GC) by Method WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	ND		5.54	50	07/24/2017 11:12	<a href="#">WG1001988</a>
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-200		07/24/2017 11:12	<a href="#">WG1001988</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		2.77	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Acrylonitrile	ND		0.554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Allyl chloride	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Benzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Bromobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Bromochloromethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Bromodichloromethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Bromoform	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Bromomethane	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
n-Butylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
sec-Butylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
tert-Butylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Carbon tetrachloride	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Chlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Chlorodibromomethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Chloroethane	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Chloroform	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Chloromethane	ND		0.138	50	07/25/2017 16:03	<a href="#">WG1001782</a>
2-Chlorotoluene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
4-Chlorotoluene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2-Dibromo-3-Chloropropane	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2-Dibromoethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Dibromomethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2-Dichlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,3-Dichlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,4-Dichlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Dichlorodifluoromethane	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1-Dichloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2-Dichloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1-Dichloroethene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
cis-1,2-Dichloroethene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
trans-1,2-Dichloroethene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2-Dichloropropane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1-Dichloropropene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,3-Dichloropropane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
cis-1,3-Dichloropropene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
trans-1,3-Dichloropropene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
2,2-Dichloropropane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Di-isopropyl ether	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Ethylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Ethyl ether	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Hexachloro-1,3-butadiene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
2-Hexanone	ND		0.554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Isopropylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/17 11:20

L923556

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
2-Butanone (MEK)	ND		0.554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Methylene Chloride	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
4-Methyl-2-pentanone (MIBK)	ND		0.554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Methyl tert-butyl ether	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Naphthalene	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
n-Propylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Styrene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1,1,2-Tetrachloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1,2,2-Tetrachloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1,2-Trichlorotrifluoroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Tetrachloroethene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Tetrahydrofuran	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Toluene	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2,3-Trichlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2,4-Trichlorobenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1,1-Trichloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,1,2-Trichloroethane	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Trichloroethene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Trichlorofluoromethane	ND		0.277	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2,3-Trichloropropane	ND		0.138	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2,4-Trimethylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,2,3-Trimethylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
1,3,5-Trimethylbenzene	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Vinyl chloride	ND		0.0554	50	07/25/2017 16:03	<a href="#">WG1001782</a>
Xylenes, Total	ND		0.166	50	07/25/2017 16:03	<a href="#">WG1001782</a>
(S) Toluene-d8	102		80.0-120		07/25/2017 16:03	<a href="#">WG1001782</a>
(S) Dibromofluoromethane	102		74.0-131		07/25/2017 16:03	<a href="#">WG1001782</a>
(S) 4-Bromofluorobenzene	106		64.0-132		07/25/2017 16:03	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method W1(95) DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	52.0		38.1	4.3	07/22/2017 16:12	<a href="#">WG1001546</a>
(S) Triacontane	111		10.0-160		07/22/2017 16:12	<a href="#">WG1001546</a>



Collected date/time: 07/18/17 11:25

L923556

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.5		1	07/24/2017 13:57	<a href="#">WG1000996</a>

## Volatile Organic Compounds (GC) by Method WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	ND		6.37	50	07/24/2017 11:35	<a href="#">WG1001988</a>
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-200		07/24/2017 11:35	<a href="#">WG1001988</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		3.19	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Acrylonitrile	ND		0.637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Allyl chloride	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Benzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Bromobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Bromochloromethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Bromodichloromethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Bromoform	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Bromomethane	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
n-Butylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
sec-Butylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
tert-Butylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Carbon tetrachloride	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Chlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Chlorodibromomethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Chloroethane	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Chloroform	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Chloromethane	ND		0.159	50	07/25/2017 16:21	<a href="#">WG1001782</a>
2-Chlorotoluene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
4-Chlorotoluene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2-Dibromo-3-Chloropropane	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2-Dibromoethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Dibromomethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2-Dichlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,3-Dichlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,4-Dichlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Dichlorodifluoromethane	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1-Dichloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2-Dichloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1-Dichloroethene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
cis-1,2-Dichloroethene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
trans-1,2-Dichloroethene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2-Dichloropropane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1-Dichloropropene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,3-Dichloropropane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
cis-1,3-Dichloropropene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
trans-1,3-Dichloropropene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
2,2-Dichloropropane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Di-isopropyl ether	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Ethylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Ethyl ether	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Hexachloro-1,3-butadiene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
2-Hexanone	ND		0.637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Isopropylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/17 11:25

L923556

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	0.0758		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
2-Butanone (MEK)	ND		0.637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Methylene Chloride	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
4-Methyl-2-pentanone (MIBK)	ND		0.637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Methyl tert-butyl ether	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Naphthalene	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
n-Propylbenzene	0.0689		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Styrene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1,1,2-Tetrachloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1,2,2-Tetrachloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1,2-Trichlorotrifluoroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Tetrachloroethene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Tetrahydrofuran	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Toluene	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2,3-Trichlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2,4-Trichlorobenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1,1-Trichloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,1,2-Trichloroethane	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Trichloroethene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Trichlorofluoromethane	ND		0.319	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2,3-Trichloropropane	ND		0.159	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2,4-Trimethylbenzene	0.0678		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,2,3-Trimethylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
1,3,5-Trimethylbenzene	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Vinyl chloride	ND		0.0637	50	07/25/2017 16:21	<a href="#">WG1001782</a>
Xylenes, Total	ND		0.191	50	07/25/2017 16:21	<a href="#">WG1001782</a>
(S) Toluene-d8	99.9		80.0-120		07/25/2017 16:21	<a href="#">WG1001782</a>
(S) Dibromofluoromethane	106		74.0-131		07/25/2017 16:21	<a href="#">WG1001782</a>
(S) 4-Bromofluorobenzene	103		64.0-132		07/25/2017 16:21	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method W1(95) DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		36.5	3.58	07/22/2017 15:49	<a href="#">WG1001546</a>
(S) Triacontane	111		10.0-160		07/22/2017 15:49	<a href="#">WG1001546</a>

## Sample Narrative:

L923556-03 WG1001546: Dilution due to matrix impact during extraction procedure





Collected date/time: 07/18/17 11:30

L923556

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.2		1	07/24/2017 13:57	<a href="#">WG1000996</a>

## Volatile Organic Compounds (GC) by Method WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	ND		6.40	50	07/24/2017 11:59	<a href="#">WG1001988</a>
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-200		07/24/2017 11:59	<a href="#">WG1001988</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		3.20	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Acrylonitrile	ND		0.640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Allyl chloride	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Benzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Bromobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Bromochloromethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Bromodichloromethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Bromoform	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Bromomethane	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
n-Butylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
sec-Butylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
tert-Butylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Carbon tetrachloride	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Chlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Chlorodibromomethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Chloroethane	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Chloroform	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Chloromethane	ND		0.160	50	07/25/2017 16:39	<a href="#">WG1001782</a>
2-Chlorotoluene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
4-Chlorotoluene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2-Dibromo-3-Chloropropane	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2-Dibromoethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Dibromomethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2-Dichlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,3-Dichlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,4-Dichlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Dichlorodifluoromethane	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1-Dichloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2-Dichloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1-Dichloroethene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
cis-1,2-Dichloroethene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
trans-1,2-Dichloroethene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2-Dichloropropane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1-Dichloropropene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,3-Dichloropropane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
cis-1,3-Dichloropropene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
trans-1,3-Dichloropropene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
2,2-Dichloropropane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Di-isopropyl ether	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Ethylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Ethyl ether	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Hexachloro-1,3-butadiene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
2-Hexanone	ND		0.640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Isopropylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/17 11:30

L923556

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
2-Butanone (MEK)	ND		0.640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Methylene Chloride	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
4-Methyl-2-pentanone (MIBK)	ND		0.640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Methyl tert-butyl ether	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Naphthalene	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
n-Propylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Styrene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1,1,2-Tetrachloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1,2,2-Tetrachloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1,2-Trichlorotrifluoroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Tetrachloroethene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Tetrahydrofuran	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Toluene	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2,3-Trichlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2,4-Trichlorobenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1,1-Trichloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,1,2-Trichloroethane	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Trichloroethene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Trichlorofluoromethane	ND		0.320	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2,3-Trichloropropane	ND		0.160	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2,4-Trimethylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,2,3-Trimethylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
1,3,5-Trimethylbenzene	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Vinyl chloride	ND		0.0640	50	07/25/2017 16:39	<a href="#">WG1001782</a>
Xylenes, Total	ND		0.192	50	07/25/2017 16:39	<a href="#">WG1001782</a>
(S) Toluene-d8	101		80.0-120		07/25/2017 16:39	<a href="#">WG1001782</a>
(S) Dibromofluoromethane	106		74.0-131		07/25/2017 16:39	<a href="#">WG1001782</a>
(S) 4-Bromofluorobenzene	102		64.0-132		07/25/2017 16:39	<a href="#">WG1001782</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method W1(95) DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	101		33.1	3.23	07/22/2017 16:01	<a href="#">WG1001546</a>
(S) Triacontane	148		10.0-160		07/22/2017 16:01	<a href="#">WG1001546</a>



Method Blank (MB)

(MB) R3235858-1 07/24/17 13:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.000600			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L923557-01 Original Sample (OS) • Duplicate (DUP)

(OS) L923557-01 07/24/17 13:57 • (DUP) R3235858-3 07/24/17 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	90.2	91.6	1	1.61		5

Laboratory Control Sample (LCS)

(LCS) R3235858-2 07/24/17 13:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	



Method Blank (MB)

(MB) R3235998-2 07/24/17 09:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
TPH (GC/FID) Low Fraction	U		0.0110	0.100
(S) a,a,a-Trifluorotoluene(PID) 102				80.0-200

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3235998-1 07/24/17 09:10 • (LCSD) R3235998-5 07/24/17 16:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) Low Fraction	0.550	0.507	0.504	92.2	91.6	80.0-120			0.630	20
(S) a,a,a-Trifluorotoluene(PID)				98.4	101	80.0-200				

5 Sr

6 Qc

L924106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L924106-01 07/24/17 12:23 • (MS) R3235998-3 07/24/17 15:45 • (MSD) R3235998-4 07/24/17 16:09

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) Low Fraction	0.550	ND	24.1	25.8	82.1	87.6	53.5	80.0-120			6.50	20
(S) a,a,a-Trifluorotoluene(PID)					102	101		80.0-200				

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3235561-3 07/23/17 01:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromochloromethane	U		0.000390	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Ethyl ether	U		0.000389	0.00100

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3235561-3 07/23/17 01:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexachloro-1,3-butadiene	U		0.000342	0.00100
2-Hexanone	U		0.00137	0.0100
Isopropylbenzene	U		0.000243	0.00100
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Tetrahydrofuran	U		0.00113	0.00500
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
Allyl Chloride	U		0.00150	0.00500
(S) Toluene-d8	102			80.0-120
(S) Dibromofluoromethane	99.2			74.0-131
(S) 4-Bromofluorobenzene	92.0			64.0-132

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3235561-1 07/23/17 00:51 • (LCSD) R3235561-2 07/23/17 01:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0948	0.0959	75.8	76.7	11.0-160			1.17	23
Acrylonitrile	0.125	0.134	0.133	107	106	61.0-143			0.510	20
Benzene	0.0250	0.0242	0.0236	97.0	94.2	71.0-124			2.89	20
Bromobenzene	0.0250	0.0236	0.0232	94.5	92.8	78.0-120			1.84	20
Bromodichloromethane	0.0250	0.0249	0.0245	99.4	97.9	75.0-120			1.59	20
Bromochloromethane	0.0250	0.0264	0.0261	106	104	80.0-121			1.20	20
Bromoform	0.0250	0.0267	0.0261	107	104	65.0-133			2.20	20
Bromomethane	0.0250	0.0220	0.0218	88.1	87.2	26.0-160			0.940	20
n-Butylbenzene	0.0250	0.0235	0.0225	93.9	90.1	73.0-126			4.11	20
sec-Butylbenzene	0.0250	0.0236	0.0233	94.4	93.0	75.0-121			1.49	20
tert-Butylbenzene	0.0250	0.0243	0.0241	97.4	96.3	74.0-122			1.06	20
Carbon tetrachloride	0.0250	0.0246	0.0248	98.5	99.4	66.0-123			0.860	20
Chlorobenzene	0.0250	0.0262	0.0256	105	102	79.0-121			2.37	20
Chlorodibromomethane	0.0250	0.0279	0.0273	111	109	74.0-128			1.90	20
Chloroethane	0.0250	0.0224	0.0218	89.4	87.2	51.0-147			2.50	20
Chloroform	0.0250	0.0249	0.0242	99.4	96.9	73.0-123			2.56	20
Chloromethane	0.0250	0.0228	0.0222	91.2	88.8	51.0-138			2.72	20
2-Chlorotoluene	0.0250	0.0238	0.0235	95.4	94.2	72.0-124			1.24	20
4-Chlorotoluene	0.0250	0.0232	0.0226	92.9	90.5	78.0-120			2.65	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0283	0.0274	113	109	65.0-126			3.33	20
1,2-Dibromoethane	0.0250	0.0281	0.0274	112	110	78.0-122			2.28	20
Dibromomethane	0.0250	0.0272	0.0263	109	105	79.0-120			3.34	20
1,2-Dichlorobenzene	0.0250	0.0262	0.0255	105	102	80.0-120			2.87	20
1,3-Dichlorobenzene	0.0250	0.0254	0.0250	102	100	72.0-123			1.55	20
1,4-Dichlorobenzene	0.0250	0.0237	0.0236	94.8	94.5	77.0-120			0.330	20
Dichlorodifluoromethane	0.0250	0.0219	0.0220	87.6	88.0	49.0-155			0.500	20
1,1-Dichloroethane	0.0250	0.0250	0.0244	99.9	97.6	70.0-128			2.28	20
1,2-Dichloroethane	0.0250	0.0287	0.0278	115	111	69.0-128			3.33	20
1,1-Dichloroethene	0.0250	0.0216	0.0211	86.6	84.3	63.0-131			2.68	20
cis-1,2-Dichloroethene	0.0250	0.0232	0.0224	92.8	89.6	74.0-123			3.51	20
trans-1,2-Dichloroethene	0.0250	0.0226	0.0225	90.4	90.1	72.0-122			0.280	20
1,2-Dichloropropane	0.0250	0.0253	0.0246	101	98.6	75.0-126			2.48	20
1,1-Dichloropropene	0.0250	0.0241	0.0238	96.6	95.3	72.0-130			1.36	20
1,3-Dichloropropane	0.0250	0.0284	0.0274	114	110	80.0-121			3.46	20
cis-1,3-Dichloropropene	0.0250	0.0262	0.0258	105	103	80.0-125			1.84	20
trans-1,3-Dichloropropene	0.0250	0.0286	0.0282	114	113	75.0-129			1.53	20
2,2-Dichloropropane	0.0250	0.0231	0.0226	92.3	90.3	60.0-129			2.21	20
Di-isopropyl ether	0.0250	0.0269	0.0262	108	105	62.0-133			2.71	20
Ethylbenzene	0.0250	0.0248	0.0241	99.1	96.4	77.0-120			2.78	20
Ethyl ether	0.0250	0.0266	0.0257	106	103	63.0-129			3.38	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3235561-1 07/23/17 00:51 • (LCSD) R3235561-2 07/23/17 01:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hexachloro-1,3-butadiene	0.0250	0.0240	0.0252	96.1	101	68.0-128			4.72	20
2-Hexanone	0.125	0.143	0.136	115	108	61.0-143			5.56	20
Isopropylbenzene	0.0250	0.0231	0.0224	92.6	89.7	75.0-120			3.13	20
p-Isopropyltoluene	0.0250	0.0238	0.0234	95.0	93.5	74.0-125			1.65	20
2-Butanone (MEK)	0.125	0.136	0.133	109	107	37.0-159			2.36	20
Methylene Chloride	0.0250	0.0232	0.0219	92.8	87.6	67.0-123			5.85	20
4-Methyl-2-pentanone (MIBK)	0.125	0.167	0.164	134	131	60.0-144			2.04	20
Methyl tert-butyl ether	0.0250	0.0271	0.0262	108	105	66.0-125			3.40	20
Naphthalene	0.0250	0.0257	0.0254	103	102	64.0-125			0.890	20
n-Propylbenzene	0.0250	0.0227	0.0222	90.6	88.7	78.0-120			2.11	20
Styrene	0.0250	0.0233	0.0233	93.4	93.2	78.0-124			0.250	20
1,1,1,2-Tetrachloroethane	0.0250	0.0267	0.0263	107	105	74.0-124			1.23	20
1,1,2,2-Tetrachloroethane	0.0250	0.0252	0.0247	101	98.6	73.0-120			2.05	20
Tetrachloroethene	0.0250	0.0269	0.0259	108	104	70.0-127			3.88	20
Tetrahydrofuran	0.0250	0.0302	0.0297	121	119	49.0-140			1.55	21
Toluene	0.0250	0.0239	0.0232	95.5	92.7	77.0-120			3.03	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0242	0.0235	96.6	94.0	64.0-135			2.79	20
1,2,3-Trichlorobenzene	0.0250	0.0249	0.0247	99.6	98.9	68.0-126			0.720	20
1,2,4-Trichlorobenzene	0.0250	0.0245	0.0239	98.1	95.6	70.0-127			2.54	20
1,1,1-Trichloroethane	0.0250	0.0242	0.0238	97.0	95.1	69.0-125			1.97	20
1,1,2-Trichloroethane	0.0250	0.0258	0.0255	103	102	78.0-120			1.12	20
Trichloroethene	0.0250	0.0261	0.0253	105	101	79.0-120			3.13	20
Trichlorofluoromethane	0.0250	0.0290	0.0277	116	111	59.0-136			4.67	20
1,2,3-Trichloropropane	0.0250	0.0265	0.0260	106	104	73.0-124			1.97	20
1,2,3-Trimethylbenzene	0.0250	0.0239	0.0235	95.5	94.1	76.0-120			1.46	20
1,2,4-Trimethylbenzene	0.0250	0.0218	0.0217	87.0	86.9	75.0-120			0.130	20
1,3,5-Trimethylbenzene	0.0250	0.0232	0.0226	92.9	90.3	75.0-120			2.84	20
Vinyl chloride	0.0250	0.0250	0.0243	100	97.4	63.0-134			2.82	20
Xylenes, Total	0.0750	0.0725	0.0702	96.7	93.6	77.0-120			3.22	20
(S) Toluene-d8				102	102	80.0-120				
(S) Dibromofluoromethane				101	100	74.0-131				
(S) 4-Bromofluorobenzene				92.0	91.3	64.0-132				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





L923865-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L923865-01 07/23/17 17:32 • (MS) R3235561-4 07/23/17 18:34 • (MSD) R3235561-5 07/23/17 18:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	ND	2.47	2.05	79.2	65.7	25	10.0-160			18.6	36
Acrylonitrile	0.125	ND	3.50	2.74	112	87.8	25	14.0-160			24.1	33
Benzene	0.0250	ND	0.593	0.560	93.5	88.3	25	13.0-146			5.60	27
Bromobenzene	0.0250	ND	0.583	0.551	93.2	88.2	25	10.0-149			5.52	33
Bromodichloromethane	0.0250	ND	0.586	0.573	93.7	91.6	25	15.0-142			2.30	28
Bromochloromethane	0.0250	ND	0.598	0.580	95.7	92.8	25	24.0-146			3.07	27
Bromoform	0.0250	ND	0.588	0.533	94.1	85.4	25	10.0-147			9.72	31
Bromomethane	0.0250	ND	0.634	0.585	101	93.6	25	10.0-160			7.99	32
n-Butylbenzene	0.0250	0.0772	0.615	0.647	86.0	91.2	25	10.0-154			5.14	37
sec-Butylbenzene	0.0250	0.0264	0.565	0.520	86.3	79.0	25	10.0-151			8.35	36
tert-Butylbenzene	0.0250	ND	0.558	0.517	89.4	82.8	25	10.0-152			7.65	35
Carbon tetrachloride	0.0250	ND	0.579	0.561	92.7	89.8	25	13.0-140			3.20	30
Chlorobenzene	0.0250	ND	0.618	0.585	98.8	93.6	25	10.0-149			5.45	31
Chlorodibromomethane	0.0250	ND	0.621	0.595	99.3	95.1	25	12.0-147			4.33	29
Chloroethane	0.0250	ND	0.539	0.514	86.2	82.2	25	10.0-159			4.67	33
Chloroform	0.0250	ND	0.605	0.570	96.7	91.1	25	18.0-148			5.95	28
Chloromethane	0.0250	ND	0.483	0.461	77.3	73.8	25	10.0-146			4.66	29
2-Chlorotoluene	0.0250	ND	0.587	0.552	93.9	88.4	25	10.0-151			6.00	35
4-Chlorotoluene	0.0250	ND	0.544	0.512	87.1	82.0	25	10.0-150			6.04	35
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.669	0.574	107	91.8	25	10.0-149			15.3	34
1,2-Dibromoethane	0.0250	ND	0.645	0.618	103	98.9	25	14.0-145			4.32	28
Dibromomethane	0.0250	ND	0.664	0.616	106	98.6	25	18.0-144			7.45	27
1,2-Dichlorobenzene	0.0250	ND	0.581	0.548	93.0	87.7	25	10.0-153			5.81	34
1,3-Dichlorobenzene	0.0250	ND	0.574	0.541	91.8	86.5	25	10.0-150			5.93	35
1,4-Dichlorobenzene	0.0250	ND	0.543	0.519	86.9	83.0	25	10.0-148			4.57	34
Dichlorodifluoromethane	0.0250	ND	0.514	0.492	82.3	78.7	25	10.0-160			4.46	30
1,1-Dichloroethane	0.0250	ND	0.598	0.571	95.7	91.4	25	19.0-148			4.65	28
1,2-Dichloroethane	0.0250	ND	0.692	0.653	111	104	25	17.0-147			5.80	27
1,1-Dichloroethene	0.0250	ND	0.652	0.592	104	94.8	25	10.0-150			9.61	31
cis-1,2-Dichloroethene	0.0250	ND	0.559	0.507	89.5	81.1	25	16.0-145			9.84	28
trans-1,2-Dichloroethene	0.0250	ND	0.539	0.497	86.2	79.5	25	11.0-142			8.03	29
1,2-Dichloropropane	0.0250	ND	0.620	0.596	99.3	95.4	25	17.0-148			4.01	28
1,1-Dichloropropene	0.0250	ND	0.615	0.574	98.4	91.9	25	10.0-150			6.82	30
1,3-Dichloropropane	0.0250	ND	0.679	0.641	109	103	25	16.0-148			5.75	27
cis-1,3-Dichloropropene	0.0250	ND	0.666	0.638	107	102	25	13.0-150			4.31	28
trans-1,3-Dichloropropene	0.0250	ND	0.701	0.664	112	106	25	10.0-152			5.51	29
2,2-Dichloropropane	0.0250	ND	0.459	0.442	73.5	70.7	25	16.0-143			3.78	30
Di-isopropyl ether	0.0250	ND	0.615	0.591	98.4	94.6	25	16.0-149			3.93	28
Ethylbenzene	0.0250	0.257	0.939	0.905	109	104	25	10.0-147			3.63	31
Ethyl ether	0.0250	ND	0.598	0.573	95.6	91.6	25	10.0-152			4.26	28

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L923865-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L923865-01 07/23/17 17:32 • (MS) R3235561-4 07/23/17 18:34 • (MSD) R3235561-5 07/23/17 18:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloro-1,3-butadiene	0.0250	ND	0.553	0.472	88.5	75.5	25	10.0-154			15.9	40
2-Hexanone	0.125	ND	4.03	3.63	129	116	25	12.0-158			10.6	30
Isopropylbenzene	0.0250	0.0453	0.605	0.565	89.5	83.1	25	10.0-147			6.80	33
p-Isopropyltoluene	0.0250	ND	0.600	0.552	94.4	86.7	25	10.0-156			8.38	37
2-Butanone (MEK)	0.125	ND	4.38	3.87	140	124	25	10.0-160			12.5	33
Methylene Chloride	0.0250	ND	0.518	0.487	82.9	77.9	25	16.0-139			6.28	29
4-Methyl-2-pentanone (MIBK)	0.125	ND	4.39	3.88	140	124	25	12.0-160			12.4	32
Methyl tert-butyl ether	0.0250	ND	0.590	0.560	94.4	89.6	25	21.0-145			5.18	29
Naphthalene	0.0250	0.198	0.866	0.814	107	98.5	25	10.0-153			6.16	36
n-Propylbenzene	0.0250	0.181	0.807	0.761	100	92.8	25	10.0-151			5.90	34
Styrene	0.0250	ND	0.594	0.557	95.0	89.2	25	10.0-155			6.35	34
1,1,1,2-Tetrachloroethane	0.0250	ND	0.587	0.546	93.9	87.3	25	10.0-147			7.28	30
1,1,2,2-Tetrachloroethane	0.0250	ND	0.553	0.507	88.4	81.0	25	10.0-155			8.74	31
Tetrachloroethene	0.0250	ND	0.619	0.590	99.0	94.3	25	10.0-144			4.82	32
Tetrahydrofuran	0.0250	ND	0.625	0.582	100	93.2	25	10.0-160			7.14	33
Toluene	0.0250	ND	0.566	0.533	90.5	85.3	25	10.0-144			5.97	28
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.716	0.625	115	100	25	10.0-153			13.7	33
1,2,3-Trichlorobenzene	0.0250	ND	0.584	0.548	93.5	87.6	25	10.0-153			6.48	40
1,2,4-Trichlorobenzene	0.0250	ND	0.570	0.535	91.3	85.6	25	10.0-156			6.37	40
1,1,1-Trichloroethane	0.0250	ND	0.567	0.542	90.8	86.8	25	18.0-145			4.51	29
1,1,2-Trichloroethane	0.0250	ND	0.614	0.579	98.3	92.6	25	12.0-151			5.99	28
Trichloroethene	0.0250	ND	0.638	0.613	102	98.0	25	11.0-148			4.10	29
Trichlorofluoromethane	0.0250	ND	0.676	0.685	108	110	25	10.0-157			1.38	34
1,2,3-Trichloropropane	0.0250	ND	0.623	0.561	99.7	89.8	25	10.0-154			10.5	32
1,2,3-Trimethylbenzene	0.0250	0.125	0.726	0.688	96.2	90.1	25	10.0-150			5.41	33
1,2,4-Trimethylbenzene	0.0250	0.450	1.15	1.12	113	107	25	10.0-151			2.95	34
1,3,5-Trimethylbenzene	0.0250	0.155	0.759	0.716	96.6	89.7	25	10.0-150			5.83	33
Vinyl chloride	0.0250	ND	0.548	0.521	87.7	83.3	25	10.0-150			5.11	29
Xylenes, Total	0.0750	0.250	2.02	1.94	94.4	89.9	25	10.0-150			4.20	31
(S) Toluene-d8					98.6	98.4		80.0-120				
(S) Dibromofluoromethane					98.7	98.6		74.0-131				
(S) 4-Bromofluorobenzene					94.8	93.8		64.0-132				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3235687-1 07/22/17 12:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
TPH (GC/FID) High Fraction	U		1.58	8.00
(S) <i>Triacotane</i>	81.9			10.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3235687-2 07/22/17 12:12 • (LCSD) R3235687-3 07/22/17 16:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) High Fraction	40.0	34.8	37.9	87.1	94.7	70.0-120			8.41	20
(S) <i>Triacotane</i>				94.5	113	10.0-160				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL (dry)	Reported Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier                      Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.  
 \* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina <sup>1</sup>	DW21704
Florida	E87487	North Carolina <sup>2</sup>	41
Georgia	NELAP	North Dakota	R-140
Georgia <sup>1</sup>	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky <sup>1</sup>	90010	South Dakota	n/a
Kentucky <sup>2</sup>	16	Tennessee <sup>14</sup>	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

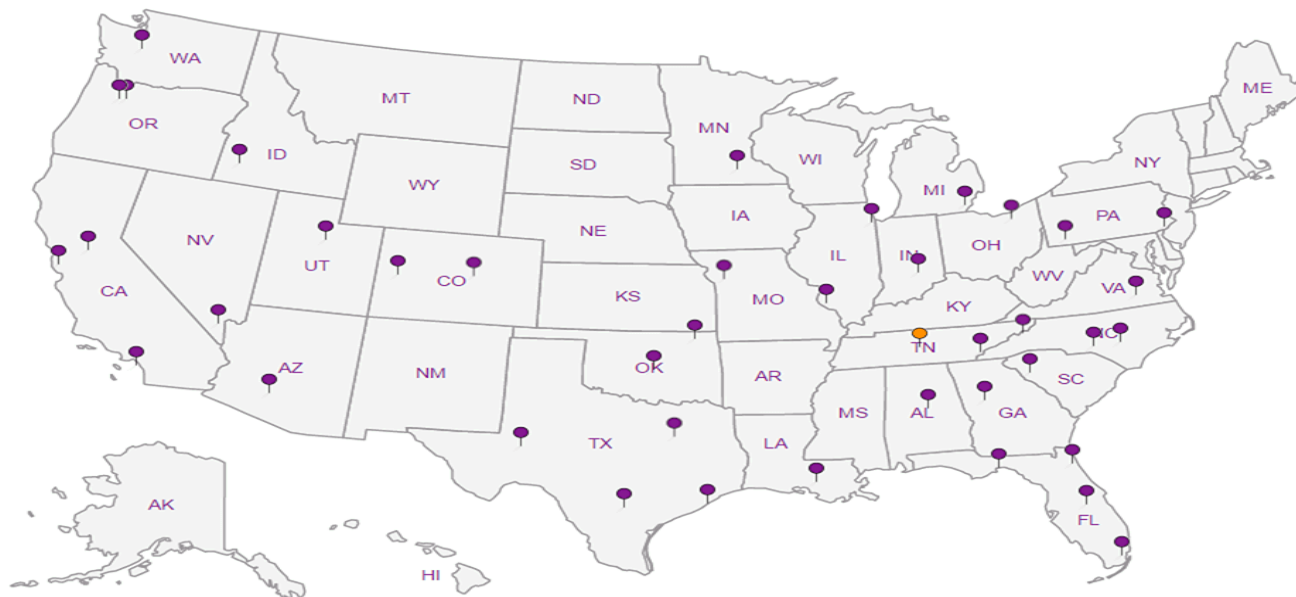
## Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>n/a</sup> Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

**MSA Professional Services**

332 W. Superior Street, Suite 600  
Duluth, MN 55802

Billing Information:

332 W. Superior St, Ste. 600  
Duluth, MN 55802

Pres  
Chk

Report to:  
*Mark Davidson*

Email To:  
*mdavidson@msa-ps.com*

Project Description: *St. Lukes - Ashland*

City/State Collected: *Ashland, WI*

Phone: 218-722-3915  
Fax: 218-722-4548

Client Project #  
*18504000*

Lab Project #

Collected by (print):  
*MARK DAVIDSON*

Site/Facility ID #

P.O. #

Collected by (signature):  
*[Signature]*

**Rush?** (Lab MUST Be Notified)  
 Same Day .....200%  
 Next Day .....100%  
 Two Day .....50%  
 Three Day .....25%

Quote #

Date Results Needed

No. of  
Cntrs

Immediately  
Packed on Ice N    Y   

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



L.A.B S.C.I.E.N.C.E.S

**YOUR LAB OF CHOICE**

12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



L# *92356*  
**B163**

Acctnum: MSAPRODMN  
Template:  
Prelogin:  
TSR: 341 - John Hawkins  
PB:  
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	VOCs	WI - GLO	WI - DEO
SE-1	G	SS	4'	7/18/17	1115	3	X	X	X
SW-1	↓	↓	↓	↓	1120	3	X	X	Y
NE-1	↓	↓	↓	↓	1125	3	Y	X	X
NW-1	↓	↓	↓	↓	1130	3	X	X	Y

\* Matrix:  
SS - Soil AIR - Air  
GW - Groundwater  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_  
Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:    UPS    FedEx    Courier   

Tracking # *7215 4516 9594*

**Sample Receipt Checklist**

COC Seal Present/Intact:    Y    N  
 COC Signed/Accurate:    Y    N  
 Bottles arrive intact:    Y    N  
 Correct bottles used:    Y    N  
 Sufficient volume sent:    Y    N

**If Applicable**

VOA Zero Headspace:    Y    N  
 Preservation Correct/Checked:    Y    N

Relinquished by: (Signature)  
*[Signature]*

Date: *7/18/17*  
Time: *1600*

Received by: (Signature)

Trip Blank Received:    Yes / No  
   HCU / MeOH  
   TBR

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received by: (Signature)

Temp: *0.9* °C  
Bottles Received: *12*

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received for lab by: (Signature)  
*Marina Malone*

Date: *7-19-17*  
Time: *0845*

Hold: \_\_\_\_\_  
Condition:    NCF /    OK



VONCO V Duluth, LLC  
1100 West Gary Street  
Duluth, MN 55808

VONCOUSA.com  
Office: 218.626.3830  
Fax: 218.626.4874

7/21/17

MSA Professionals  
Mark Davidson

Profile# 17-125-I  
Generator: St Luke's Ashland  
Waste Stream: contaminated soil

Mark,

Please be advised that the above described waste material is acceptable for disposal at the Vonco V Waste Management Campus Facility in Duluth, MN. The waste material is acceptable per Vonco V (SW-560) Minnesota Pollution Control Agency Industrial Solid Waste Management Plan. The profile is approved for **500** CY for disposal.

The referenced waste must maintain consistency with what was originally submitted on the waste profile. Vonco V Waste Management Campus must be contacted immediately for any changes in material composition or process generation as further testing and analysis may apply.

Additionally, acceptance is subject to the following conditions:

- The material will be absent of free liquids and must meet the paint filter test.
- A signed waste manifest with the correct profile number shall accompany each load delivered to Vonco V Waste Management Campus.
- All hauling will be in compliance with the Federal and State D.O.T regulations.

Thank you for choosing Vonco V Waste Management Campus. We appreciate your business. If you have any questions or concerns please feel free to contact me @ (218) 730-6361.

Have a great day,

A handwritten signature in black ink, appearing to read 'Joe Pesante'.

Joe Pesante  
Vonco V, LLC

# VONCO V, LLC.

PHONE: 218-626-3830 FAX: 218-626-1009

## INDUSTRIAL/NON-HAZARDOUS MATERIAL TRANSPORT AND DISPOSAL MANIFEST

<b>GENERATOR</b>	1. Work Site Name <u>St. Luke's Ashland</u> Address <u>North of E 22nd Ave and Lakeview Blvd.</u> City, St., Zip <u>Ashland, WI 54806</u> Owner's Name <u>St. Lukes Hospital</u> Owner's Phone No. <u>218-249-5664</u>		PROFILE #: <u>17-125-1</u>	
	2. Consultant/Contractor <u>MSA Professional Services, Inc.</u> Address <u>332 W. Superior Street, #600</u> City, St., Zip <u>Duluth, MN 55802</u> Operator's Phone <u>218-499-3175</u>		3. Waste Disposal Site <u>VONCO V, LLC.</u> Mailing Address <u>1100 West Gary Street</u> City, St., Zip <u>Duluth, MN 55808</u>	
	5. Description of Materials <u>Petroleum Impacted soil</u>		6. Containers (No.-Type)	7. Total Quantity (m <sup>3</sup> or yd <sup>3</sup> )
	8. Special Handling Instructions and Additional Information			
9. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and governmental regulations. The above listed material(s) is (are) not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law. Name & Title (Printed or Typed) <u>Brian Swanson / Fac. Engineer</u> Signature <u>[Signature]</u> Date <u>7/25/17</u>				
<b>TRANSPORTER</b>	10. Transporter 1 (Acknowledgement of receipt of materials) Name/Title _____ Signature _____ Date _____ Address _____ City, St., Zip _____ Phone No. _____			
	11. Transporter 2 (Acknowledgement of receipt of materials) Name/Title _____ Signature _____ Date _____ Address _____ City, St., Zip _____ Phone No. _____			
<b>DISPOSAL SITE</b>		13. Waste Disposal Site Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in item 12. Name/Title (Printed or Typed) _____ Signature _____ Date _____		
12. Discrepancy Indication Space Ticket # _____ Tons _____ Yards _____ E _____ N _____ Elev. _____				

CONTRACTOR - WHITE

TRANSPORTER - CANARY

WASTE DISPOSAL SITE - PINK

GENERATOR/OPERATOR - GOLD



# VONCO V, LLC.

PHONE: 218-626-3830 FAX: 218-626-1009

## INDUSTRIAL/NON-HAZARDOUS MATERIAL TRANSPORT AND DISPOSAL MANIFEST

GENERATOR

1. **Work Site Name** St. Luke's Ashland  
**Address** North of E 22nd Ave and Lakeview Blvd.  
**City, St., Zip** Ashland, WI 54806  
**Owner's Name** St. Lukes Hospital  
**Owner's Phone No.** 218-249-5664

2. **Consultant/Contractor** MSA Professional Services, Inc.  
**Address** 332 W. Superior Street, #600  
**City, St., Zip** Duluth, MN 55802  
**Operator's Phone** 218-499-3175

**PROFILE #:** 17-125-1

3. **Waste Disposal Site** VONCO V, LLC.  
**Mailing Address** 1100 West Gary Street  
**City, St., Zip** Duluth, MN 55808

4. **Responsible Agency** MN Pollution Control Agency  
**Address** 520 Lafayette Road  
**City, St., Zip** St. Paul, MN 55155-3898

5. Description of Materials	6. Containers (No.-Type)	7. Total Quantity (m <sup>3</sup> or yd <sup>3</sup> )
<u>Petroleum Impacted soil</u>		

8. **Special Handling Instructions and Additional Information**

9. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and governmental regulations. The above listed material(s) is (are) not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law.

Name & Title (Printed or Typed) GERALD PALMQUIST, KA SUPER. AS R.P. FOR ST. LUKE'S Signature Gerald Palmquist Date \_\_\_\_\_

TRANSPORTER

10. **Transporter 1** (Acknowledgement of receipt of materials)  
Name/Title \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_  
Address \_\_\_\_\_ City, St., Zip \_\_\_\_\_ Phone No. \_\_\_\_\_

11. **Transporter 2** (Acknowledgement of receipt of materials)  
Name/Title \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_  
Address \_\_\_\_\_ City, St., Zip \_\_\_\_\_ Phone No. \_\_\_\_\_

**DISPOSAL SITE**

12. **Discrepancy Indication Space**

Ticket # \_\_\_\_\_ Tons \_\_\_\_\_ Yards \_\_\_\_\_  
E \_\_\_\_\_ N \_\_\_\_\_ Elev. \_\_\_\_\_

13. **Waste Disposal Site Owner or Operator:** Certification of receipt of non-hazardous materials covered by this manifest except as noted in item 12.

Name/Title (Printed or Typed) \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_

**PHOTOGRAPHIC LOG**  
**St. Luke's Chequamegon Clinic**  
Lake Shore Drive, Ashland, WI 54806  
MSA Project No. PO#18504000



*Boring with unknown petroleum product on south side of site.*



*Unknown petroleum product on soil stockpile.*



*Petroleum impacted material from excavation in stockpile.*



*Petroleum impacted material from excavation in stockpile.*



*Location of excavation of petroleum impacted material looking north.*



*Location of excavation of petroleum impacted material and debris pile looking north.*



*Location of excavation after grading looking north.*



*Location of unknown petroleum product after excavation looking south.*



*Location of unknown petroleum product after excavation looking west.*



*Location of unknown petroleum product after excavation looking west.*