

MEMO

To:

MDEQ Southeast MI District Office
Attn: Mr. Greg Barrows
2770 Donald Court
Warren, MI 48092-2793

Copies:

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From:

Brad Saunders

Date:

May 18, 2017

Arcadis Project No.:

B0064486.2017.00003

Subject:

Off-Site / Mill Street Groundwater Monitoring Event
RACER Trust Pontiac Employee Development Center (EDC) Site
Facility ID 6300600
65 East University, Pontiac, Oakland County, MI

The purpose of this memorandum is to report the results of a groundwater monitoring event conducted on April 10, 2018 encompassing the five remaining monitoring wells located off-site west of the RACER Trust Pontiac Employee Development Center (EDC) site (refer to **Figure 1** for Site Location Map). RACER achieved restricted No Further Action (NFA) for the site from MDEQ in December 2016 and sold the site to George W. Auch Company in February 2017, but the NFA did not include impacted property located west of the site. Three of the remaining monitoring wells are located in the City of Pontiac's Mill Street, while the other two monitoring wells are located on off-site properties immediately west of Mill Street. Prior groundwater monitoring events were conducted on March 29, 2017 and September 27, 2017.

On April 10, 2018, ARCADIS conducted a gauging event and collected groundwater samples from monitoring wells MW-19, MW-20, MW-25, MW-26, and MW-27. Sampling methods and techniques were identical to those used for past groundwater sampling events. The analytical parameter list was limited to analysis of volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method 8260, consistent with the most recent monitoring events as based on past results and constituents of concern. Samples were submitted to Merit Laboratories for analysis. Locations of the monitoring wells sampled are shown within the red-bordered area identified as "Not Included in the NFA" on the attached Site Map (refer to **Figure 2**).

The groundwater elevations for the remaining five monitoring wells are shown on **Table 1**. The groundwater gauging data from April 2018 indicated groundwater levels within the range of levels realized in past sampling events. Groundwater flow direction in the vicinity of the Mill St. and two other off-site wells as determined from previous site investigations indicated radial flow from the southwest portion of

former Pontiac EDC site to the west. Groundwater analytical results (refer to **Table 2**) from the April 2018 indicated continued stable to decreasing concentrations of contaminants in the two monitoring wells where contaminants were previously detected, with no detection of contaminants in the other three monitoring wells. The following is a summary of the groundwater analytical results from the April 2018 event:

- MW-26: Benzene was detected in MW-26 (centrally located Mill St. well) at 128 micrograms per liter (ug/L) in the April 2018 groundwater sampling event, down from 197 ug/L detected in the September 2017 groundwater sampling event and 517 ug/L detected in the March 2017 groundwater sampling event. The concentration of benzene in MW-26 continues to exceed its Part 201 NRDW Criteria of 5 ug/L, but is now well below its 200 ug/L GSI Criteria. Although the monitoring well location is located in a city street where the vapor intrusion pathway is incomplete, the concentration of benzene is now also below the vapor intrusion screening level (VISL) criteria of 140 ug/L. The concentration of benzene has consistently and steadily decreased from a high of 3,360 ug/l detected in January 2013 following 2012 impacted soil excavation activities at the adjacent Pontiac EDC site. Vinyl chloride was detected at 2 ug/L in the April 2018 groundwater sampling event, which is at but not exceeding its Part 201 NRDW Criteria of 2 ug/L, and below the Part 201 criteria for GSI of 13 ug/L and VISL of 42 ug/L. Vinyl chloride was not detected in the September 2017 groundwater sampling event, but the laboratory method detection limit was 5 ug/L for that sampling event. Vinyl chloride had been detected at 8 ug/L in the March 2017 groundwater sampling event, which indicates a decrease in the concentration of this contaminant over the past two sampling events.
- Other contaminants continue to remain below detection limits at MW-26.
- MW-27: Trichloroethylene (TCE) was detected in MW-27 (southern-most Mill St. well) at 2 ug/L in the April 2018 groundwater sampling event. The concentration of TCE at MW-27 is slightly lower than the 3 ug/L detected in the September 2017 groundwater sampling event, and equivalent to the 2 ug/L detected in the March 2017 groundwater sampling event. The concentration of TCE remains below Part 201 Criteria for NRDW of 5 ug/L, GSI of 200 ug/L, and VISL of 41 ug/L. The concentrations of TCE has declined from a high 6 of ug/L during the September 2013 groundwater monitoring event, and has not exceeded criteria since that event.
- Concentrations of target VOCs remain below Part 201 Generic Cleanup Criteria and laboratory method detection limits in MW-19 (off-site property west of Mill St.), MW-20 (off-site property west of Mill St.), and MW-25 (northern-most Mill St. well).

Trend graphs (refer to **Figures 3A and 3B**) showing analytical history of benzene in monitoring well MW-27 and TCE are also included as attachments to this memorandum. The Laboratory Analytical Report is also included as **Appendix A**.

Based on the results of groundwater monitoring activities and current conditions in the vicinity of the at the Site, ARCADIS proposes the following activities:

- Continue to monitor contaminant concentrations in the Mill Street monitoring wells and pursue MDEQ regulatory closure of the identified impacted area within Mill Street.

May 18, 2018
MDEQ Southeast MI District Office
Attn: Mr. Greg Barrows

Attachments

- 1 Table 1 Groundwater Level and Elevation Data
- 2 Table 2 Groundwater Analytical Data
- 3 Figure 1 Site Location Map
- 4 Figure 2 Site Map
- 5 Figures 3A & 3B MW-26 and MW-27 Trend Graphs
- 6 Appendix A Laboratory Analytical Report

TABLES



Table 1
Groundwater Level and Elevation Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Monitoring/Extraction Well ID	Top of Casing Elevation (feet) ¹	Date	Depth to Product (feet bgs)	Depth to Groundwater (feet bgs)	Product Thickness (feet)	Groundwater Elevation (feet) ¹
MW-19 (3-13')	917.38	12/2/2010	NP	4.21	NP	913.17
	917.38	1/28/2013	NP	5.63	NP	911.75
	917.38	6/24/2013	NP	4.87	NP	912.51
	917.38	9/17/2013	NP	6.02	NP	911.36
	917.38	5/21/2014	NP	4.29	NP	913.09
	917.38	10/27/2014	NP	5.67	NP	911.71
	917.38	4/15/2015	NP	5.98	NP	911.40
	917.38	3/29/2017	NP	5.45	NP	911.93
	917.38	9/27/2017	NP	6.85	NP	910.53
	917.38	4/10/2018	NP	5.83	NP	911.55
MW-20 (3-13')	917.44	12/2/2010	NP	7.15	NP	910.29
	917.44	1/28/2013	NP	7.05	NP	910.39
	917.44	6/24/2013	NP	6.67	NP	910.77
	917.44	9/17/2013	NP	7.51	NP	909.93
	917.44	5/21/2014	NP	6.24	NP	911.20
	917.44	10/27/2014	NP	6.72	NP	910.72
	917.44	4/15/2015	NP	6.87	NP	910.57
	917.44	3/29/2017	NP	6.11	NP	911.33
	917.44	9/27/2017	NP	8.71	NP	908.73
	917.44	4/10/2018	NP	7.29	NP	910.15
MW-25 (4-14')	915.68	1/28/2013	NP	5.25	NP	910.43
	915.68	6/24/2013	NP	4.71	NP	910.97
	915.68	9/17/2013	NP	5.91	NP	909.77
	915.68	5/21/2014	NP	4.11	NP	911.57
	915.68	10/27/2014	NP	4.91	NP	910.77
	915.68	4/15/2015	NP	5.30	NP	910.38
	915.68	3/29/2017	NP	4.12	NP	911.56
	915.68	9/27/2017	NP	6.72	NP	908.96
	915.68	4/10/2018	NP	5.36	NP	910.32
MW-26 (3-13')	916.67	1/28/2013	NP	3.49	NP	913.18
	916.67	6/24/2013	NP	3.43	NP	913.24
	916.67	9/17/2013	NP	3.64	NP	913.03
	916.67	5/21/2014	NP	3.40	NP	913.27
	916.67	10/27/2014	NP	3.19	NP	913.48
	916.67	4/15/2015	NP	4.46	NP	912.21
	916.67	3/29/2017	NP	2.48	NP	914.19
	916.67	9/27/2017	NP	4.42	NP	912.25
	916.67	4/10/2018	NP	4.36	NP	912.31
MW-27 (6.5-16.5')	916.75	1/28/2013	NP	8.11	NP	908.64
	916.75	6/24/2013	NP	6.83	NP	909.92
	916.75	9/17/2013	NP	6.67	NP	910.08
	916.75	5/21/2014	NP	6.79	NP	909.96
	916.75	10/27/2014	NP	8.00	NP	908.75
	916.75	4/15/2015	NP	8.47	NP	908.28
	916.75	3/29/2017	NP	7.24	NP	909.51
	916.75	9/27/2017	NP	9.06	NP	907.69
	916.75	4/10/2018	NP	9.01	NP	907.74

General Notes:

1. Elevations are based on feet above the North American Vertical Datum of 1988 (NAVD88).
2. Coordinates are on the Michigan State Plane Coordinate System.
3. Elevations and coordinates were determined during surveys completed on December 11, 2006, February 12, 2008, November 1, 2010, January 30, 2013 and October 24, 2014.

Acronyms and Abbreviations:

NP = No product

Table 2
Groundwater Analytical Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Sample ID:		MDEQ Part 201 Non-Residential Cleanup Criteria				MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19
		Non-Residential Drinking Water Protection Criteria	Ground Water Surface Water Interface Criteria	Vapor Intrusion Ground Water Screening Level	Flammability and Explosivity Screening Level	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.
Date Collected:						12/2/2010	1/30/2013	6/27/2013	9/19/2013	5/23/2014	3/29/2017	9/27/2017	4/10/2018
Screened Interval (ft bgl):						3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'
Analytical Parameter	Units												
VOCs (EPA Method 8260)													
Benzene	ug/L	5.0 (A)	200 (X)	140	68,000	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5.0 (A)	200 (X)	41	ID	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	2.0 (A)	13 (X)	42	33,000	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	various	various	various	various	ND	ND	ND	ND	ND	ND	ND	ND

See Notes on last page.

Table 2
Groundwater Analytical Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Sample ID:		MDEQ Part 201 Non-Residential Cleanup Criteria				MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20
		Non-Residential Drinking Water Protection Criteria	Ground Water Surface Water Interface Criteria	Vapor Intrusion Ground Water Screening Level	Flammability and Explosivity Screening Level	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.	Off-Site, West of Pontiac EDC Site and Mill St.
Date Collected:						12/2/2010	1/30/2013	6/27/2013	9/20/2013	5/22/2014	10/27/2014	4/15/2015	3/29/2017	9/27/2017	4/10/2018
Screened Interval (ft bgl):						3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'	3-13'
Analytical Parameter	Units														
VOCs (EPA Method 8260)															
Benzene	ug/L	5.0 (A)	200 (X)	140	68,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5.0 (A)	200 (X)	41	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	2.0 (A)	13 (X)	42	33,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	various	various	various	various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See Notes on last page.

Table 2
Groundwater Analytical Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Sample ID:		MDEQ Part 201 Non-Residential Cleanup Criteria				MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25
		Non-Residential Drinking Water Protection Criteria	Ground Water Surface Water Interface Criteria	Vapor Intrusion Ground Water Screening Level	Flammability and Explosivity Screening Level	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)	Off-Site, City of Pontiac Mill Street (Northern)
Date Collected:						1/30/2013	6/24/2013	9/19/2013	5/22/2014	10/28/2014	4/15/2015	3/29/2017	9/27/2017	4/10/2018
Screened Interval (ft bgl):						4-14'	4-14'	4-14'	4-14'	4-14'	4-14'	4-14'	4-14'	4-14'
Analytical Parameter	Units													
VOCs (EPA Method 8260)														
Benzene	ug/L	5.0 (A)	200 (X)	140	68,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5.0 (A)	200 (X)	41	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	2.0 (A)	13 (X)	42	33,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	various	various	various	various	ND	ND	ND	ND	ND	ND	ND	ND	ND

See Notes on last page.

Table 2
Groundwater Analytical Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Sample ID:		MDEQ Part 201 Non-Residential Cleanup Criteria				MW-26	MW-26	MW-26	MW-26		MW-26		MW-26		MW-26		MW-26		MW-26	
		Non-Residential Drinking Water Protection Criteria	Ground Water Surface Water Interface Criteria	Vapor Intrusion Ground Water Screening Level	Flammability and Explosivity Screening Level	Off-Site, City of Pontiac Mill Street (Central)	Off-Site, City of Pontiac Mill Street (Central)	Off-Site, City of Pontiac Mill Street (Central)	Off-Site, City of Pontiac Mill Street (Central)		Off-Site, City of Pontiac Mill Street (Central)		Off-Site, City of Pontiac Mill Street (Central)		Off-Site, City of Pontiac Mill Street (Central)		Off-Site, City of Pontiac Mill Street (Central)		Off-Site, City of Pontiac Mill Street (Central)	
Date Collected:						1/30/2013	6/24/2013	9/19/2013	5/23/2014		10/27/2014		4/15/2015		3/29/2017		9/27/2017		4/10/2018	
Screened Interval (ft bgl):						3-13'	3-13'	3-13'	3-13'		3-13'		3-13'		3-13'		3-13'		3-13'	
Analytical Parameter	Units																			
VOCs (EPA Method 8260)																				
Benzene	ug/L	5.0 (A)	200 (X)	140	68,000	3,360	3,020	2,600	2,450	2,530	2,870	3,200	1,920	1,490	517	512	197	191	128	129
Trichloroethene	ug/L	5.0 (A)	200 (X)	41	ID	<50	<50	<100	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	2.0 (A)	13 (X)	42	33,000	<50	<50	<100	<50	<50	<50	<50	<50	<50	8	8	<5	<5	2	2
Other Target VOCs	ug/L	various	various	various	various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See Notes on last page.

Table 2
Groundwater Analytical Data

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

Sample ID:		MDEQ Part 201 Non-Residential Cleanup Criteria				MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27
		Non-Residential Drinking Water Protection Criteria	Ground Water Surface Water Interface Criteria	Vapor Intrusion Ground Water Screening Level	Flammability and Explosivity Screening Level	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)	Off-Site, City of Pontiac Mill Street (Southern)
Date Collected:						1/30/2013	6/24/2013	9/19/2013	5/23/2014	10/27/2014	4/15/2015	3/29/2017	9/27/2017	4/10/2018
Screened Interval (ft bgl):						6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'	6.5-16.5'
Analytical Parameter	Units													
VOCs (EPA Method 8260)														
Benzene	ug/L	5.0 (A)	200 (X)	140	68,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5.0 (A)	200 (X)	41	ID	<1	4	6	4	5	3	2	3	2
Vinyl chloride	ug/L	2.0 (A)	13 (X)	42	33,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	various	various	various	various	ND	ND	ND	ND	ND	ND	ND	ND	ND

See Notes on last page.

Table 2
Groundwater Analytical Data
RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

General Notes:

1. Cleanup criteria exceedances are bolded.
2. < denotes less than noted detection limit.
3. Cleanup Criteria: Part 201 (Environmental Remediation) of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451 (Revised December 30, 2013).

Footnote:

** Analyzed via USEPA Method 8260B

Acronyms and Abbreviations:

- ID Insufficient data to develop criterion
- ND Not detected
- (A) Criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
- (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. see formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure.

FIGURES



Figure 3A
Groundwater Analytical Trend Graph for Benzene

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342

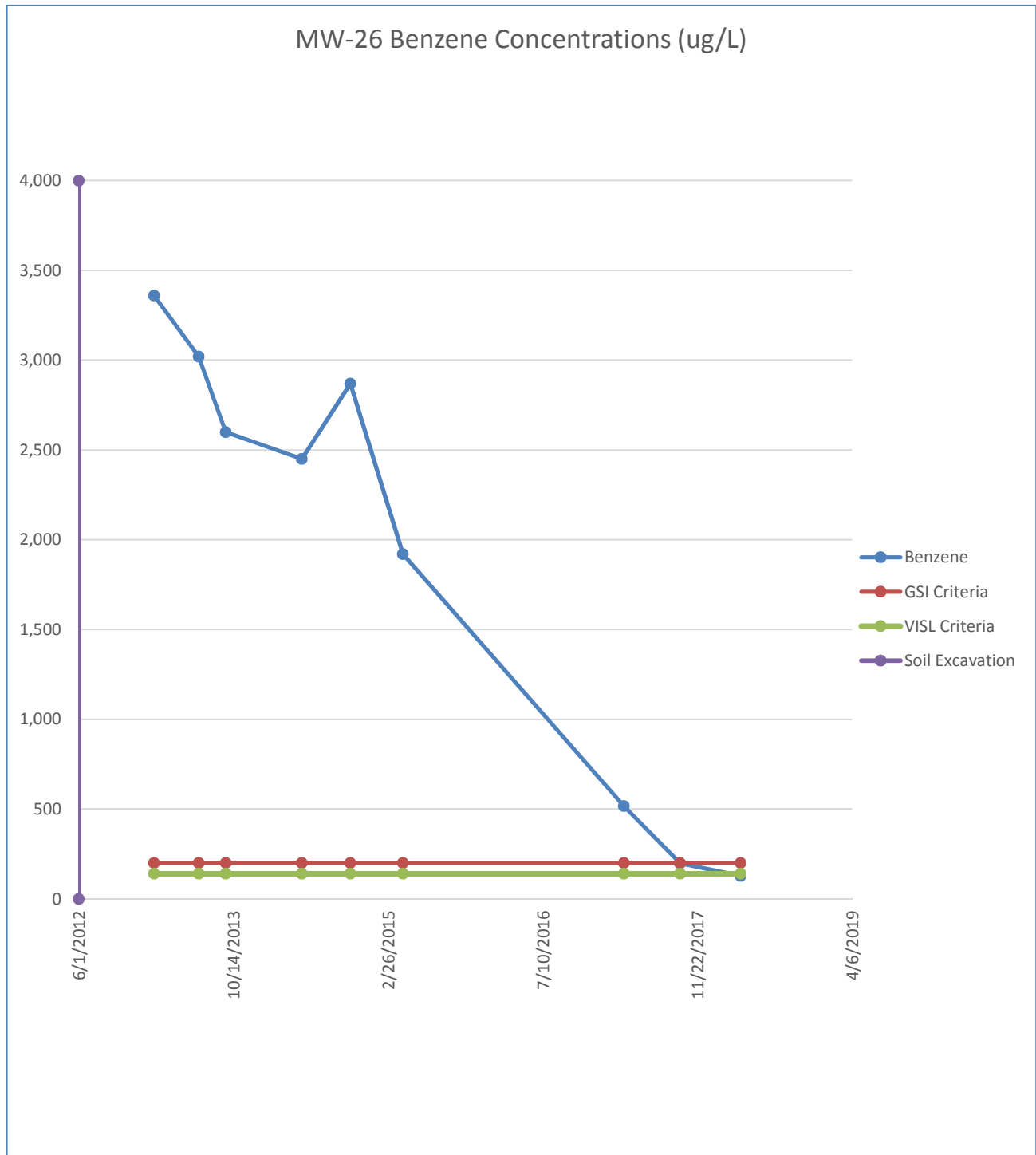
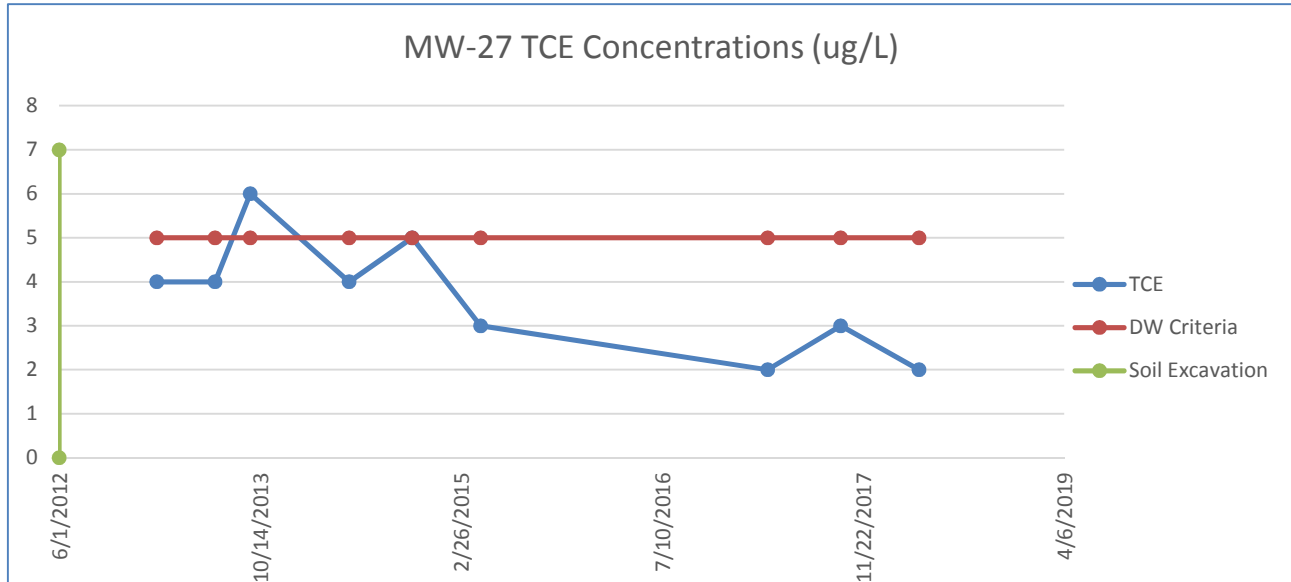


Figure 3B
Groundwater Analytical Trend Graph for TCE

RACER Trust
Employee Development Center
65 E. University Drive
Pontiac, MI 48342







Analytical Laboratory Report

Report ID: S88914.01(01)

Generated on 04/17/2018

Report to

Attention: Brad Saunders

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Novi, MI 48377

Phone: 810-225-1904 FAX: 248-994-2241

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Report produced by

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John Lavery (johnlavery@meritlabs.com)

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Report Summary

Lab Sample ID(s): S88914.01-S88914.07

Project: B0064486.2018.00003

Collected Date: 04/10/2018

Submitted Date/Time: 04/11/2018 15:45

Sampled by: Ashley Reibel

P.O. #: B0064486.2018.00003

Table of Contents

Cover Page (Page 1)

General Report Notes (Page 2)

Report Narrative (Page 2)

Laboratory Certifications (Page 3)

Qualifier Descriptions (Page 3)

Glossary of Abbreviations (Page 3)

Method Summary (Page 4)

Sample Summary (Page 5)

A handwritten signature in black ink, reading "Maya Murshak".

Maya Murshak

Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.
Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S88914.01	MW-25_041018	Groundwater	04/10/18 09:12
S88914.02	MW-26_041018	Groundwater	04/10/18 10:17
S88914.03	MW-19_041018	Groundwater	04/10/18 10:52
S88914.04	MW-27_041018	Groundwater	04/10/18 11:42
S88914.05	MW-20_041018	Groundwater	04/10/18 12:17
S88914.06	TRIPBLANK_01	Water	04/10/18 00:01
S88914.07	Dup-01_041018	Groundwater	04/10/18 00:01



Analytical Laboratory Report

Lab Sample ID: S88914.01

Sample Tag: MW-25_041018

Collected Date/Time: 04/10/2018 09:12

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 14:06	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 14:06	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 14:06	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 14:06	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 14:06	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 14:06	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 14:06	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.01 (continued)

Sample Tag: MW-25_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 14:06	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 14:06	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 14:06	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.02

Sample Tag: MW-26_041018

Collected Date/Time: 04/10/2018 10:17

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 02:11	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:11	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:11	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 02:11	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	74-87-3	
Vinyl chloride	2	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 02:11	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:11	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:11	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	56-23-5	
Benzene	128	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.02 (continued)

Sample Tag: MW-26_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:11	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:11	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:11	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.03

Sample Tag: MW-19_041018

Collected Date/Time: 04/10/2018 10:52

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 02:29	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:29	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:29	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 02:29	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 02:29	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:29	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:29	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.03 (continued)

Sample Tag: MW-19_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:29	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:29	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:29	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.04

Sample Tag: MW-27_041018

Collected Date/Time: 04/10/2018 11:42

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 02:48	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:48	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:48	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 02:48	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 02:48	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:48	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 02:48	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	107-06-2	
Trichloroethene	2	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.04 (continued)

Sample Tag: MW-27_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 02:48	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 02:48	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 02:48	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.05

Sample Tag: MW-20_041018

Collected Date/Time: 04/10/2018 12:17

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 03:08	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:08	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 03:08	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 03:08	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 03:08	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:08	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:08	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.05 (continued)

Sample Tag: MW-20_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 03:08	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:08	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:08	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.06

Sample Tag: TRIPBLANK_01

Collected Date/Time: 04/10/2018 00:01

Matrix: Water

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/12/18 23:57	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/12/18 23:57	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/12/18 23:57	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/12/18 23:57	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/12/18 23:57	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/12/18 23:57	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/12/18 23:57	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.06 (continued)

Sample Tag: TRIPBLANK_01

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/12/18 23:57	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/12/18 23:57	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/12/18 23:57	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S88914.07

Sample Tag: Dup-01_041018

Collected Date/Time: 04/10/2018 00:01

Matrix: Groundwater

COC Reference: 114393

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/13/18 12:50	JML		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/13/18 03:27	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:27	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/13/18 03:27	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/13/18 03:27	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	74-87-3	
Vinyl chloride	2	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/13/18 03:27	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:27	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/13/18 03:27	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	56-23-5	
Benzene	129	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S88914.07 (continued)

Sample Tag: Dup-01_041018

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/13/18 03:27	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/13/18 03:27	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/13/18 03:27	JML	91-57-6	



C.O.C. PAGE # 1 OF 1

114393

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Brad Saunders			
COMPANY ARCADIS			
ADDRESS 28550 Cabot Dr Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248 994 2240		FAX NO. 248 994 2241	P.O. NO.
E-MAIL ADDRESS brad.saunders@arcadis.com			QUOTE NO.

CONTACT NAME		NAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.		E-MAIL ADDRESS	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO. / NAME B00644816.2018.0003	SAMPLER(S) - PLEASE PRINT/SIGN NAME Ashley Reibel / Ashley R. B.
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☐ Other _____

Special Instructions

MATRIX	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
CODE:	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR W=WASTE

Containers & Preservatives

[illegible]

RELINQUISHED BY:	<i>Ashley Rish</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	ARCADIS		4/10/18	1315
RECEIVED BY:	NOV COLD STORAGE		DATE	TIME
SIGNATURE/ORGANIZATION			4/10/18	1315
RELINQUISHED BY:	<i>Ashley Rish</i>		DATE	TIME
SIGNATURE/ORGANIZATION			4-11-18	1111
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION	Nov		4-11-18	1111

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE		TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE		TIME	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL		
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	5.0		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE