



Stericycle
Environmental Solutions

July 31, 2019

Mr. Dan Dailey
Michigan Department of Environmental Quality
Management and Tracking Unit
Hazardous Waste Section
PO Box 30241
Lansing, MI 48909

**Subject: 1st 2019 Semi-Annual Groundwater Report for Petro-
Chem Processing Group of Nortru, LLC
Detroit, MI. MID 980 615 298**

Dear Mr. Dailey:

Pursuant to Part V.A.6 of the Petro-Chem Processing Group of Nortru, LLC Operating License, enclosed is the 1st Semi-Annual Groundwater Report for 2019. The enclosed report presents groundwater data collected in June 2019.

If you have any questions, please contact me at 215-822-2337.

Sincerely,

Greg Fink
EHS Director

cc: Ed Burke, Stericycle
Kellie Wing, Bureau Veritas

**1st Semi - Annual Groundwater Report
Nortru, LLC
Petro-Chem Processing Group Facility
421 Lycaste Street, Detroit, MI**

July 31, 2019

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Greg Fink
EHS Director

2019 1st Semi-Annual Environmental Monitoring Report

Stericycle Environmental Solutions, Inc.
Petro-Chem Processing Group Facility
421 Lycaste Street
Detroit, Michigan

July 31, 2019
Project Number 11019-000076.00.001

Prepared for:
Stericycle Environmental Solutions, Inc.
Detroit, Michigan

Apex Companies, LLC
22345 Roethel Drive
Novi, MI 48375





CONTENTS

<u>Section</u>	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
2.0 <u>MONITORING WELL SAMPLING</u>	1
3.0 <u>GROUNDWATER FIELD DATA</u>	2
4.0 <u>LABORATORY ANALYSIS OF GROUNDWATER SAMPLES</u>	2
5.0 <u>GROUNDWATER FLOW EVALUATION</u>	2
6.0 <u>EVALUATION OF GROUNDWATER LABORATORY ANALYTICAL RESULTS</u>	3
7.0 <u>CONCLUSIONS AND RECOMMENDATIONS</u>	4
8.0 <u>SCHEDULE</u>	4

Figures

- 1 Site Location Map
- 2 Sampling Locations
- 3 Groundwater Elevation Contours, June 12, 2019

Tables

- 1 Groundwater Elevation Measurements
- 2 Summary of Laboratory Analytical Results

Appendices

- A Well Development and Purging Data Sheets
- B Detailed Analytical Results
- C Historical Summary Table of Analytical Results
- D Statistical Evaluation



1.0 INTRODUCTION

Stericycle Environmental Solutions, Inc. (Stericycle) retained the HSE Division of Bureau Veritas in North America which has since been acquired by Apex Companies, LLC (Apex), to prepare this Semi-Annual Groundwater Monitoring Report for evaluation of groundwater at the Stericycle, Petro-Chem Processing Group Facility (Site) located at 421 Lycaste Street in Detroit, Michigan (Figure 1). This report was prepared in accordance with the Hazardous Waste Management Facility Operating License (Operating License) and Groundwater Monitoring Program enforced with Michigan Department of Environmental Quality (MDEQ) and dated December 18, 2012.

The Site is located at 421 Lycaste Street in Detroit, Wayne County, Michigan at the northwestern corner of Lycaste and Freud Streets. Parts of the Site historically operated as an Amoco refinery. The site currently operates as a fuel blending and solvent recycling plant. Spent solvents, rags, fuel sludges, and tank bottoms are brought to the facility where these materials are either cleaned and recycled, or sold as fuel to cement kilns.

The existing monitoring well locations that were sampled during this sampling event are shown on Figure 2.

Until the end of 2012, Monitoring Wells MW-1 through MW-10 were sampled on a semi-annual basis and analyzed for volatile organic compounds (VOCs) in the laboratory and pH and specific conductance (SC) in the field. Until late 2007, only a few VOC or pH/SC results of potential interest had occurred and were subsequently discounted through statistical evaluation. More recently, elevated SC upper prediction limit exceedances have occurred sporadically, but without accompanying VOC statistical exceedances. In accordance with the new Operating License, the monitoring wells are now sampled via low-flow sampling techniques and analyzed for VOCs, semi-volatile organic compounds (SVOCs), and petroleum distillates.

All monitoring well screens are set in a fill material beneath the site. Below the fill material, a dense clay is typically encountered. Groundwater depths typically range from five to thirteen feet below ground surface.

2.0 MONITORING WELL SAMPLING

During the groundwater sampling conducted on June 12 and 13, 2019, Apex performed the following tasks:

- Measured the total depth of each well.
- Measured the depth to groundwater in each well after the static water level stabilized to atmospheric equilibrium. Measurements were performed using an electronic interface probe.
- Purged the monitoring wells using low-flow purging methods (e.g., using a YSI Pro purge pump, or similar). The low-flow purging flow rates were on the order of 0.15 to 0.40 liters per minute (L/min). Field parameters (e.g., temperature, pH, and dissolved oxygen, etc.) stabilized prior to sampling Monitoring Wells MW-2D, MW-9, MW-11 and MW-12 while Monitoring Wells MW-1, MW-3 through MW-8, and MW-10 purged dry. These wells were allowed to recover overnight and Apex re-mobilized to the site the following day to collect groundwater samples from the monitoring wells. See Appendix A for well development and purging data sheets.



- Preserved samples for VOCs and gasoline range organics (GRO) analysis in lab-provided and certified containers (40-milliliter [mL] VOAs with hydrochloric acid preservative). Groundwater samples for SVOC and diesel range organics (DRO) analysis were placed into 1-liter amber glass containers.
- Transported groundwater samples for analysis of VOCs, SVOCs, and petroleum distillates (i.e., DRO and GRO) to Fibertec Environmental Services' laboratory in Holt, Michigan, in an ice-packed cooler under proper chain of custody.
- Decontaminated re-usable equipment (e.g., interface probe) between each monitoring well. Decontamination included: distilled water wash with Liqui-Nox detergent and distilled water rinse.
- Placed purge water in a drum for disposal.

Groundwater samples were analyzed for VOCs using United States Environmental Protection Agency (USEPA) Method 8260B, SVOCs using USEPA Method 8270C, and petroleum distillates using USEPA Method 8015C. See Figure 2 for semi-annual monitoring sampling locations.

3.0 GROUNDWATER FIELD DATA

No free-phase product was encountered in any of the monitoring wells.

An organic, petroleum-like odor was detected during the sampling of Monitoring Well MW-2D and a solvent-like odor was noted during the sampling of Monitoring Well MW-11.

4.0 LABORATORY ANALYSIS OF GROUNDWATER SAMPLES

Each groundwater sample was analyzed for VOCs, SVOCs, and petroleum distillates, with the exception of Monitoring Wells MW-1, MW-7, and MW-10. Due to insufficient water within the monitoring wells, the entire list of parameters was unable to be analyzed for these wells. For these monitoring wells DRO was not analyzed. Fibertec Environmental Services' laboratory in Holt, Michigan conducted the laboratory analyses. Detailed groundwater analytical data are presented in Appendix B.

5.0 GROUNDWATER FLOW EVALUATION

Before purging and sampling, Apex measured the depth to groundwater in each monitoring well (i.e., MW-1 through MW-12). Based on the surveyed elevations, and depth to groundwater in each monitoring well, Apex prepared a groundwater elevation map (Figure 3) showing the current groundwater elevation. The direction of groundwater flow appears to be toward the **west, north and east** based on groundwater elevations collected on June 12, 2019. The groundwater elevations and the direction of groundwater flow is generally the same as what has been measured since December 2010. Historic groundwater flow direction was generally to the north or west-northwest. Table 1 presents newly collected groundwater elevations measured in the monitoring wells.



6.0 EVALUATION OF GROUNDWATER LABORATORY ANALYTICAL RESULTS

For evaluating whether response actions are necessary, the analytical results were compared to MDEQ Target Detection Limits (TDLs). Based on the analytical results from samples collected on June 13, 2019, the following were detected in one or more of the Monitoring Wells at concentrations exceeding MDEQ TDLs:

- VOCs - acetone, benzene, tert-butyl alcohol, 2-butanone (MEK), 1,1-dichloroethane, cis-1,2-dichloroethene, diisopropyl ether, ethylbenzene, isopropylbenzene, methylene chloride, 4-methyl-2-pentanone (MIBK), methyl tert-butyl ether (MtBE), tetrahydrofuran, toluene, 1,2,4-trimethylbenzene (TMB), and xylenes
- SVOCs - 2,4-dimethylphenol, 2-methylphenol, 3&4-methylphenol, and phenol
- Diesel range organics, oil range organics, gasoline range organics

Statistical evaluations performed did not indicate that the concentrations were statistically significant, with the exception of the following:

- MEK in Monitoring Well MW-11 was found to have a downward trend. The highest concentration of MEK in the monitoring well is as follows:
 - o Monitoring Well MW-11: 21,000 µg/L in December 2016
- Diisopropyl ether in Monitoring Well MW-4 was found to have a downward trend. The highest concentration of diisopropyl ether in the monitoring well is as follows:
 - o Monitoring Well MW-4: 11 µg/L in November 2012
- MIBK in Monitoring Well MW-11 was found to have a downward trend. The highest concentration of MIBK in the monitoring well is as follows:
 - o Monitoring Well MW-11: 84,000 µg/L in December 2016
- MtBE in Monitoring Wells MW-4, MW-6, MW-9, and MW-11 was found to have a downward trend. The highest concentration of MtBE in the monitoring wells is as follows:
 - o Monitoring Well MW-4: 170 µg/L in June 2010
 - o Monitoring Well MW-6: 3,700 µg/L in June 2010
 - o Monitoring Well MW-9: 3,000 µg/L in June 2010
 - o Monitoring Well MW-11: 19,000 µg/L in June 2016
- TBA in Monitoring Wells MW-4 and MW-6 was found to have a downward trend. The highest concentration of TBA in the monitoring wells is as follows:
 - o Monitoring Well MW-4: 1,200 µg/L in May and November 2013; June 2015
 - o Monitoring Well MW-6: 1,400 µg/L in June and December 2010
- THF in Monitoring Well MW-11 was found to have a downward trend. The highest concentration of THF in the monitoring well is as follows:
 - o Monitoring Well MW-11: 46,000 µg/L in December 2016



- ORO in Monitoring Well MW-2 was found to have a downward trend. The highest concentration of ORO in the monitoring wells is as follows:
 - o Monitoring Well MW-2: 1,900 µg/L in May 2013

Analytical results from the June 2019 sampling event are summarized in Table 2. Detailed analytical results are included in Appendix B. The historical summary of analytical results is included in Appendix C. The results of the statistical evaluation to determine if a significant exceedance of TDL occurred are included in Appendix D.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Downward trends were noted for several compounds including MEK, diisopropyl ether, MIBK, MtBE, TBA, THF, and ORO for groundwater sampled during the 1st 2019 semi-annual groundwater sampling event.

8.0 SCHEDULE

Groundwater monitoring will be conducted on a semi-annual basis for 2019. The next groundwater sampling event is scheduled for December 2019.



**2019 1st Semi-Annual
Environmental Monitoring Report
for**

Philip Environmental Services Division,
Petro-Chem Processing Group Facility
421 Lycaste Street
Detroit, Michigan

Prepared for:

Stericycle Environmental Solutions, Inc.
Detroit, Michigan

Project No. 11019-000076.00.001

A handwritten signature in cursive script, reading 'Kellie L. Wing'.

This report prepared by: _____

Kellie L. Wing
Program Manager
Health, Safety and Environmental Services
Great Lakes Region

A handwritten signature in cursive script, reading 'Michele J. Strickland'.

This report reviewed by: _____

Michele J. Strickland
Senior Project Manager
Health, Safety and Environmental Services
Great Lakes Region

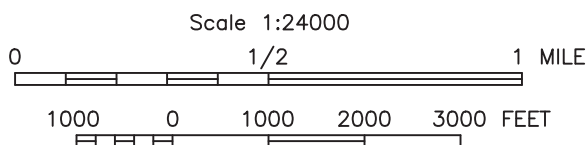
July 31, 2019



FIGURES



QUADRANGLE LOCATION



SOURCE OF MAP IS US TOPO 7.5 MINUTE QUADRANGLE MAP,
BELLE ISLE (2017), MICHIGAN: U.S. GEOLOGICAL SURVEY

SITE
LOCATION/BOUNDARIES
APPROXIMATED



CHECK BY	KW
DRAWN BY	JL
DATE	7/25/2019
SCALE	AS SHOWN
CAD NO.	11.19.076.00A
PRJ NO.	11019-000076.00

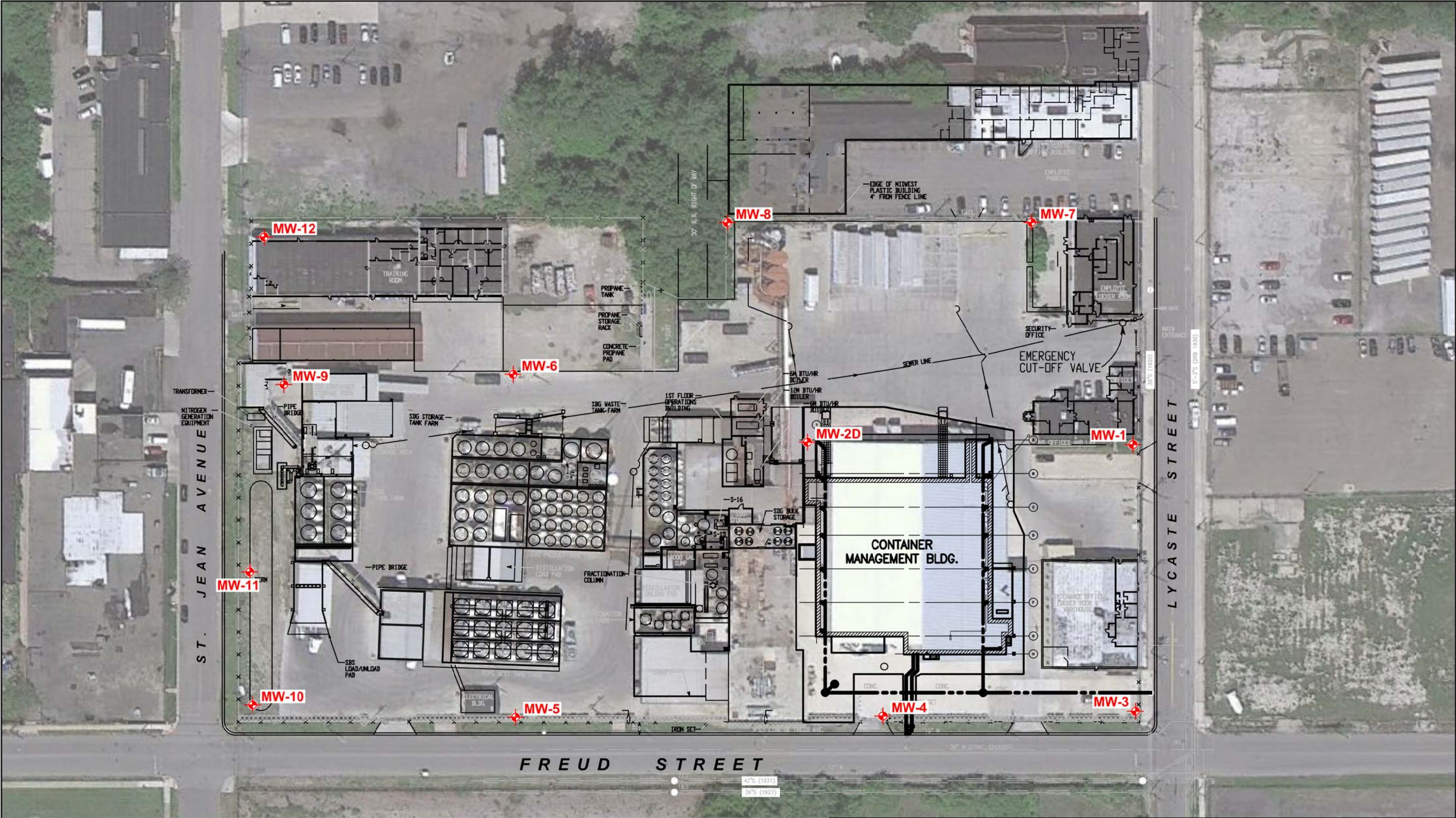
SITE LOCATION MAP

PETRO-CHEM PROCESSING GROUP
421 LYCASTE STREET
DETROIT, MICHIGAN



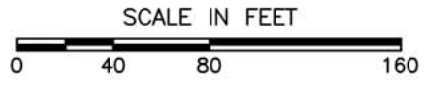
FIGURE

1



LEGEND

 **MW-#** MONITORING WELL LOCATION



CHECK BY	KW
DRAWN BY	JL
DATE	7/25/2019
SCALE	AS SHOWN
CAD NO.	11.16.143.00b
PRJ NO.	11016-000143.00

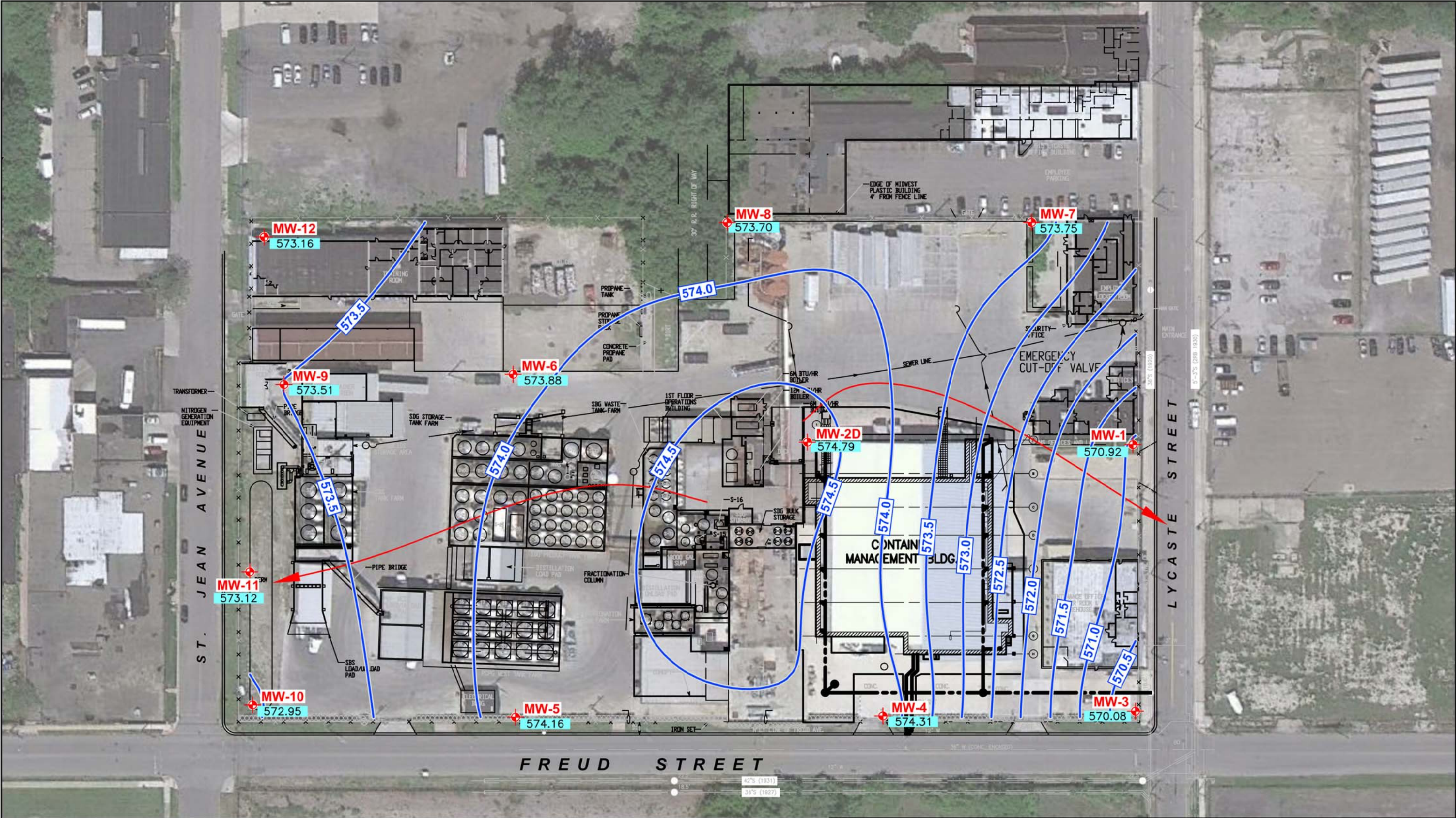
SAMPLING LOCATIONS

PETRO-CHEM PROCESSING GROUP

421 LYCASTE STREET

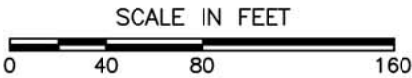
DETROIT, MICHIGAN





LEGEND

- GROUNDWATER CONTOUR
- GROUNDWATER ELEVATION (FT.)
- GROUNDWATER FLOW



CHECK BY	KW
DRAWN BY	JL
DATE	6/14/2019
SCALE	AS SHOWN
CAD NO.	076.00_gw6-19
PRJ NO.	11019-000076.00

GROUNDWATER ELEVATION CONTOURS
JUNE 12, 2019

PETRO-CHEM PROCESSING GROUP
421 LYCASTE STREET
DETROIT, MICHIGAN



FIGURE

3



TABLES



Table 1 - Groundwater Elevation Measurements

**2019 1st Semi-Annual Monitoring Event
PSC Petro-Chem Processing Group Facility
Detroit, Michigan**

Monitoring Well	Top of Casing Elevation (feet)	June 12, 2019	
		Groundwater Depth (feet)	Groundwater Elevation (feet)
MW-1	581.58	10.66	570.92
MW-2D	580.06	5.27	574.79
MW-3	581.99	11.91	570.08
MW-4	580.56	6.25	574.31
MW-5	581.42	7.26	574.16
MW-6	583.40	9.52	573.88
MW-7	581.54	7.79	573.75
MW-8	581.45	7.75	573.70
MW-9	582.11	8.60	573.51
MW-10	581.66	8.71	572.95
MW-11	587.01	13.89	573.12
MW-12	582.37	9.21	573.16



Table 2 - Summary of Laboratory Analytical Results

2019 1st Semi-Annual Monitoring Event
PSC Petro-Chem Processing Group Facility - Detroit, Michigan

Monitoring Well Number	MDEQ TDL	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	Dup	Rinsate Blank	Trip Blank
Sample Collection Date	6/2016	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019	6/13/2019
Volatile Organic Compounds																
Acetone	20	<20	<20	<20	53	<20	<50	<20	<20	<50	<20	29,000	<20	<50	<20	<20
Benzene	1.0	<1.0	8.4	<1.0	<2.5	<1.0	<2.5	<1.0	<1.0	<5.0	<1.0	<1,000	<1.0	<5.0	<1.0	<1.0
tert-Butyl alcohol	50	<50	<50	<50	760	<50	250	<50	69	<130	<50	<25,000	<50	<130	<50	<50
2-Butanone	5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<25	<5.0	9,300	<5.0	<25	<5.0	<5.0
1,1-Dichloroethane	1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<2.5	<1.0	<1.0	<2.5	<1.0	800	<1.0	<2.5	<1.0	<1.0
cis-1,2-Dichloroethene	1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<2.5	<1.0	<1.0	<2.5	<1.0	8,800	<1.0	<2.5	<1.0	<1.0
Diisopropyl ether	5.0	<5.0	<5.0	<5.0	5.4	5.8	<5.0	<5.0	<5.0	5.1	<5.0	<1,000	<5.0	5.8	<5.0	<5.0
Ethylbenzene	1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<2.5	<1.0	13,000	<1.0	<2.5	<1.0	<1.0
Isopropylbenzene	1.0	<1.0	1.4	<1.0	<2.5	<1.0	<2.5	<1.0	<1.0	<2.5	<1.0	<500	<1.0	<2.5	<1.0	<1.0
Methylene Chloride	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	2,000	<5.0	<10	<5.0	<5.0
4-Methyl-2-Pentanone	5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<25	<5.0	42,000	<5.0	<25	<5.0	<5.0
Methyl tert-butyl ether (MtBE)	1.0	13	1.6	4.1	77	7.7	610	<1.0	7.2	520	4.1	6,300	<1.0	580	<1.0	<1.0
Tetrahydrofuran	5.0	<5.0	170	<5.0	<10	<5.0	<10	<5.0	<5.0	<25	<5.0	20,000	<5.0	<25	<5.0	<5.0
Toluene	1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	83,000	<1.0	<5.0	<1.0	<1.0
1,2,4-Trimethylbenzene	1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<2.5	<1.0	<1.0	<2.5	<1.0	550	<1.0	<2.5	<1.0	<1.0
Xylene (total)	3.0	<3.0	<3.0	<3.0	<7.5	<3.0	<7.5	<3.0	<3.0	<7.5	<3.0	56,000	<3.0	<7.5	<3.0	<3.0
Other VOCs	Vary	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds																
2,4-Dimethylphenol	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	<5.0	<5.0	<5.0	--
2-Methylphenol	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	87	<5.0	<5.0	<5.0	--
3&4-Methylphenol	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	150	<10	<10	<10	--
Phenol	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	500	<5.0	<5.0	<5.0	--
Other SVOCs	Vary	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
Petroleum Distillates																
Diesel Range Organics (DRO)	200	--	800	280	3,100	<200	230	--	400	<200	--	4,600	<200	<200	<200	--
Oil Range Organics (ORO)	200	--	510	630	780	450	400	--	600	270	--	960	240	470	<200	--
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	160,000	<200	<200	<200	--

All groundwater sample results in micrograms per Liter (µg/L) or parts per billion (ppb)

MDEQ = Michigan Department of Environmental Quality

TDL = Target Detection Limit

ND = non-detect

-- = analyte not analyzed

< = limit of detection for sample

NA = TDL not available

G- = Recovery of the associated Surrogate Compound exceeds the lower control limit. Results may be biased low.

G+ = Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.

Yellow Shaded/Bold typeface indicates that concentration exceeds MDEQ TDL



APPENDIX A

WELL DEVELOPMENT AND PURGING DATA SHEETS

Well Development and Purging Data

Well Number: 1

Page 1 of 1

Project Name: 2019 1st Semi-Annual Monitoring

Client Company: Stericycle Environmental Solutions

Site Name: Petro-Chem

Project Manager: Kellie Wing

Site Address: 421 Lyncaste, Detroit, MI

Project No.: 11019-000076

Development Criteria

3 to 5 Casing Volumes of Water Removal

X Stabilization of Indicator Parameters

Other _____

Methods of Development

Pump _____ Bailer _____

Centrifugal _____ Bottom Valve _____

Submersible _____ Double Check Valve _____

X Peristaltic _____ Stainless-steel Kemmerer _____

Instruments

X Temperature Meter

X Conductivity Meter (+/- 3%)

X DO Meter (+/- 0.3 mg/L)

X pH Meter (+/- 0.1 unit)

X ORP Meter (+/- 10mV)

X Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Diameter (Inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
6/12	15:24	X	--	300		10.67			--	--							Start Purging
	15:26	X	--			12.15	2248		--	--							
	15:28	X	--			13.39		0.75	--	--							Purged 11y
	15:29	X	--						--	--							Sampled
6/13	11:10	X	--						--	--							100% of SWR only
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							

Circle the date and time that the development criteria are met

Comments: Clear with some fast
Developer's Signature: Robert M. York

Reviewer: JW Date: 6/13/19

Date: 6/14/19

Well Number: 2

Well Development and Purging Data

Page 1 of 1

Project Name: 2019 1st Semi-Annual Monitoring

Project Manager: Kellie Wing

Client Company: Stericycle Environmental Solutions

Project No.: 11019-000076

Site Name: Petro-Chem

Site Address: 421 Lyncaste, Detroit, MI

Development Criteria

3 to 5 Casing Volumes of Water Removal

X Stabilization of Indicator Parameters

Other: _____

Methods of Development

Pump _____

Centrifugal _____

Submersible _____

Peristaltic _____

Bottom Valve

Double Check Valve

Stainless-steel Kemmerer

Instruments

X Temperature Meter

X Conductivity Meter (+/- 3%)

X DO Meter (+/- 0.3 mg/L)

X pH Meter (+/- 0.1 unit)

X ORP Meter (+/- 10mV)

X Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
6/12/19	9:36	X	--	280		5.27			--		12.4	2.109	-2.99	7.84	-162.8	8.33	Start Purging
	9:57	X	--			7.02			--		12.3	2.322	-2.57	7.89	-174.8	7.51	
	10:01	X	--			7.20			--		12.3	2.574	-2.61	7.92	-185.9	6.43	
	10:03	X	--			7.29			--		12.2	2.794	-2.68	7.97	-195.0	5.10	
	10:05	X	--			7.37			--		12.1	2.949	-2.71	7.99	-199.3	4.13	
	10:07	X	--			7.46			--		12.1	3.058	-2.72	7.99	-203.5	4.51	
	10:09	X	--			7.54			--		12.1	3.156	-2.72	7.98	-208.0	4.25	Sampled @ 10:11
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								

Circle the date and time that the development criteria are met

Comments: Clear with black sediment & solvent like odor

Developer's Signature: Jason M. Galar

Date: 6/13/19

Reviewer: KW

Date: 6/14/19

Well Development and Purging Data

of

Project Manager: Kellie Wind

Project No.: 11019-0000076

Site Address: 421 Lycastr. Detroit, MI

Instruments

Water Volume Calculation ($2'' = 0.1632 \cdot 4'' = 0.6528$)

Water Volume Calculation

Water Volume Calculation ($2'' = 0.167$ ft)

Water Volume in Well	Gallon

Water Volume in Well	Gallons -

Water Volume in Well	Gallon

--	--

--	--

[illegible]

Circle the date and time that the development criteria are met

Date: 6/14/12

Reviewer: KU

Date: 6/13/19

Well Development and Purging Data

Page 7 of 7

Project Manager: Kellie Wing

Client Company: Stericycle Environmental Solutions

Project No.: 11019-000076

Site Name: Petro-Chem

Site Address: 421 Lyncaste, Detroit, MI

Development Criteria

ment Criteria
3 to 5 Casing Volumes of Water Removal

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet):

Height of Water Column in Well (feet):

Methods of Development

Methods of Development

Centrifugal

Submersible _____ Double Check Valve _____

Peristaltic _____ Stainless-steel Kemmerer

Water Disposal: 55-gallon drum

Water Removal Data

[illegible]

Circle the date and time that the development criteria are met

Comments: Clear to order ESS

Developer's Signature: Jerry M. Gale

Date: 01/3/19

Reviewer: KW

Date: 06/14/19

Well Development and Purging Data

Page 1 of 1

Project Manager: Kellie Wing

Site Address: 421 Lycaste, Detroit, MI

Project No.: 11019-0000076

Instruments

Water Volume Calculation (2" = 0.1633; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Water Volume in Well	Gallons
----------------------	---------

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

[illegible]

Circle the date and time that the development criteria are met

Comments: Clear & odorless with some rusty particulate initially.

Developer's Signature: Fraser M. Palmer

Date: 6/13/19

Reviewer: AW

Date: 6/11/19

Well Development and Purging Data

Page 1 of 1

Project No.: 11019-000076

Project Manager: Kellie Wing

Site Address: 421 Lyncaste, Detroit, MI

Project Name: 2019 1st Semi-Annual Monitoring

Client Company: Stericycle Environmental Solutions

Site Name: Petro-Chem

Development Criteria

3 to 5 Casing Volumes of Water Removal

X Stabilization of Indicator Parameters

Other

Methods of Development

Pump Bailer

Centrifugal Bottom Valve

Submersible Double Check Valve

X Peristaltic Stainless-steel Kemmerer

Instruments

X Temperature Meter
X Conductivity Meter (+/- 3%)
X DO Meter (+/- 0.3 mg/L)
X pH Meter (+/- 0.1 unit)
X ORP Meter (+/- 10mV)
X Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Volume Calculation

Initial Depth of Well (feet): 2' = 0.1632; 4' = 0.6528

Initial Depth to Water (feet):

Height of Water Column in Well (feet):

Diameter (inches): Well Gravel Pack

Item	Water Volume in Well Cubic Feet	Gallons Removed
Well Casing		
Gravel Pack		
Drilling Fluids		
Total		

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
6/17/19	16:18	X	--														Start Purging
	16:17	X	--					0.25									Purged day
		X	--														
6/13/20		X	--														sarged
		X	--														
		X	--														
		X	--														
		X	--														
		X	--														
		X	--														
		X	--														
		X	--														
		X	--														

Circle the date and time that the development criteria are met

Comments: Initial rust particles then clear & odorless

Developer's Signature: *James M. Park*

Date: 6/13/19

Reviewer: *KW*

Date: 6/14/19

Well Development and Purging Data

Well Number: 7

Page 1 of 1

Project Name: 2019 1st Semi-Annual Monitoring

Client Company: Stericycle Environmental Solutions

Site Name: Petro-Chem

Project Manager: Kellie Wing

Site Address: 421 Lyncaste, Detroit, MI

Project No.: 11019-000076

Development Criteria

3 to 5 Casing Volumes of Water Removal

X Stabilization of Indicator Parameters

Other: _____

Methods of Development

Pump _____ Bailer _____

Centrifugal _____ Bottom Valve _____

Submersible _____ Double Check Valve _____

X Peristaltic _____ Stainless-steel Kemmerer _____

Instruments

X Temperature Meter

X Conductivity Meter (+/- 3%)

X DO Meter (+/- 0.3 mg/L)

X pH Meter (+/- 0.1 unit)

X ORP Meter (+/- 10mV)

X Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Diameter (inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
10/17/19	15:41	X	--	320		7.81			--	--							Start Purging
	15:43	X	--			9.11			--	--							Purged dry
	15:47	X	--					0.75	--	--							sanded
10/13/19	10:58	X	--						--	--							vac. 1 galols 1 vac only
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							
		X	--						--	--							

Circle the date and time that the development criteria are met

Comments: Clear + odorless

Developer's Signature: Jason M. Galen

Date: 10/13/19

Reviewer: KW

Date: 10/14/19

Well Number: 0

Page 1 of 1

Project Name: 2019 1st Semi-Annual Monitoring
Client Company: Stericycle Environmental Solutions
Site Name: Petro-Chem

Project Manager: Kellie Wing

Project No.: 11019-000076

Development Criteria

3 to 5 Casing Volumes of Water Removal	X
Stabilization of Indicator Parameters	
Other	

Methods of Development

Pump	Bailer
Centrifugal	Bottom Valve
Submersible	Double Check Valve
X Peristaltic	Stainless-steel Kemmerer

Instruments

X	Temperature Meter
X	Conductivity Meter (+/- 3%)
X	DO Meter (+/- 0.3 mg/L)
X	pH Meter (+/- 0.1 unit)
X	ORP Meter (+/- 10mV)
X	Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Removal Data

[illegible]

Circle the date and time that the development criteria are met

Comments: Clear to add test

Developer's Signature: Steven M. Galar Date: 6/13/19

Reviewer: AW Date: 6/14/19

Well Number: 9

Well Development and Purging Data

Page 1 of 1

Project Name: 2019 1st Semi-Annual Monitoring
Client Company: Stericycle Environmental Solutions
Site Name: Petro-Chem

Project Manager: Kellie Wing
Site Address: 421 Lyncaste, Detroit, MI

Project No.: 11019-000076

Development Criteria

3 to 5 Casing Volumes of Water Removal
X Stabilization of Indicator Parameters
Other: _____

Methods of Development

Pump _____ Bailer _____
Centrifugal _____ Bottom Valve _____
Submersible _____ Double Check Valve _____
X Peristaltic _____ Stainless-steel Kemmerer _____

Instruments

X Temperature Meter
X Conductivity Meter (+/- 3%)
X DO Meter (+/- 0.3 mg/L)
X pH Meter (+/- 0.1 unit)
X ORP Meter (+/- 10mV)
X Turbidity Meter (+/- 10%)

Water Disposal: 55-gallon drum

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____
Initial Depth to Water (feet): _____
Height of Water Column in Well (feet): _____

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
6/13	1228	X	-	300		8.56			-	-	-	-	-	-	-	-	Start Purging
	137	X	-			9.10	1.5	1.5	-	-	12.4	2.947	-1.50	6.50	-947	9.14	
	139	X	-			9.06			-	-	12.4	2.957	-1.48	6.52	-957	7.66	
	141	X	-			9.01	2.0	2.0	-	-	12.5	2.960	-1.76	6.53	-954	7.91	
	143	X	-			9.00			-	-	12.5	2.962	-1.75	6.53	-944	7.69	
	145	X	-			8.88			-	-	12.4	2.964	-1.78	6.53	-959	6.73	
	148	X	-			8.87	2.5	2.5	-	-	12.7	2.966	-1.73	6.53	-953	6.36	sampled
	149	X	-						-	-							
		X	-						-	-							
		X	-						-	-							
		X	-						-	-							
		X	-						-	-							
		X	-						-	-							
		X	-						-	-							
		X	-						-	-							

Circle the date and time that the development criteria are met

Comments: Sampled as Duplicate / slight shear

Developer's Signature: Kellie Wing Date: 6/13/19 Reviewer: KW Date: 6/14/19

Well Number:

Project Manager: Kellie Wing

Site Address: 421 Lycaste, Detroit, MI

Site Name: Petro-Chem

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Item	Removed	
	Cubic Feet	Gallons

Well Casing		
-------------	--	--

Gravel Pack		
-------------	--	--

Drilling Fluids		
-----------------	--	--

Total			
-------	--	--	--

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Ballot				Increment	Cumulative	Increment	Cumulative							
6/2/19	16:25	X	---						---	---							Start Purging
	16:28	X	---					0.25	---	---							Purged dry
		X	---						---	---							
6/13	842	X	---						---	---							sampled - dry
		X	---						---	---							
		X	---						---	---							noes/ SiO2 / 126 only
		X	---						---	---							
		X	---						---	---							
		X	---						---	---							
		X	---						---	---							
		X	---						---	---							

Circle the date and time that the development criteria are met

Comments: Clear to 4000 ft sample silty

Developer's Signature: Jason M. Gahr

Date: 6/13/19

Reviewer: AK

Date: 06/12/19

Well Development and Purging Data

of

Project Manager: Kellie Wing

Project No.: 11019-0000076

Site Address: 421 Lycaete, Detroit, MI

Instruments

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet):

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Height of Water Column in Well (feet): _____

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	

[illegible]

Circle the date and time that the development criteria are met

Comments: Dark sediment 6 pet like odor, slight sheen

Developer's Signature: Foray M. Gal

Date: 6/13/19

Reviewer: KW

Date: 6/11/19

Well Number: 12

Well Development and Purging Data

Page 1 of 1Project Name: 2019 1st Semi-Annual MonitoringProject Manager: Kellie WingClient Company: Stericycle Environmental SolutionsProject No.: 11019-000076Site Name: Petro-ChemSite Address: 421 Lyncaste, Detroit, MI

Development Criteria

3 to 5 Casing Volumes of Water RemovalX Stabilization of Indicator ParametersOther _____

Methods of Development

Pump _____

Centrifugal _____

Submersible _____

X Peristaltic _____

Bottom Valve _____

Double Check Valve _____

Stainless-steel Kemmerer _____

Instruments

X Temperature MeterX Conductivity Meter (+/- 3%)X DO Meter (+/- 0.3 mg/L)X pH Meter (+/- 0.1 unit)X ORP Meter (+/- 10mV)X Turbidity Meter (+/- 10%)

Water Volume Calculation (2" = 0.1632; 4" = 0.6528)

Initial Depth of Well (feet): _____

Initial Depth to Water (feet): _____

Height of Water Column in Well (feet): _____

Diameter (inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons - Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal: 55-gallon drum

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temp (°C)	Conductivity (mS/cm) (ppm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (<10 NTUs)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative							
8/13/19	8:31	X	--	280		8.95			--		13.3	0.505	-1.47	7.28	55.7	1.70	Start Purging
	8:39	X	--			8.97			--		13.5	0.487	-1.66	7.17	54.0	1.78	
	8:41	X	--			8.97			--		13.6	0.460	-0.85	7.15	53.7	1.75	
	8:43	X	--			8.99			--		13.8	0.406	0.84	7.05	71.6	1.94	
	8:51	X	--	310		8.99			--		13.8	0.394	1.71	7.00	93.5	2.04	
	8:53	X	--			8.99			--		13.8	0.385	1.79	6.99	96.1	2.61	
	8:55	X	--			9.00			--		13.9	0.387	1.71	6.98	97.7	2.32	
	8:57	X	--			9.00			--		14.0	0.389	1.62	6.97	102.0	2.19	Sampled @ 8:57:00
	8:59	X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								
		X	--						--								

Circle the date and time that the development criteria are met

Comments: Clear & OdorlessDeveloper's Signature: James M. GaltDate: 8/13/19Reviewer: KWDate: 8/14/19



APPENDIX B

DETAILED ANALYTICAL RESULTS



Tuesday, June 25, 2019

Fibertec Project Number: 91080
Project Identification: PSC (11019-000076.00.001) /11019-000076.00.001
Submittal Date: 06/14/2019

Ms. Kellie Wing
Bureau Veritas North America, Inc.
22345 Roethel Drive
Novi, MI 48375

Dear Ms. Wing,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Rikki Lott". The signature is fluid and cursive.

By Rikki Lott at 5:39 PM, Jun 25, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-1	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

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

Gasoline Range Organics (GRO)
Method: EPA 5021A/EPA 8015C

Aliquot ID: 91080-001A
Description: MW-1
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-001B
Description: MW-1
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	20	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-1	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-001B
Description: MW-1
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	13		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-1	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-001B **Matrix: Ground Water**
Description: MW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-001 **Matrix: Ground Water**
Description: MW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
3. Aniline	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
4. Anthracene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
23. Chrysene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-1	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-001
Description: MW-1
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
27. Diethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
34. Fluorene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
37. Hexachlorocyclopentadiene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
40. Isophorone	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
59. Phenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
60. Pyrene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
61. Pyridine	U	*	µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 91080
Laboratory Sample Number: 91080-001

Order: 91080
Page: 6 of 74
Date: 06/25/19

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-1	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-001 Matrix: Ground Water
Description: MW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-2	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:11

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-002	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-2				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	800		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	510		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-002A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-2				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-002B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-2				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	8.4		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-2	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:11

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-002B
Description: MW-2
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	1.4		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	1.6		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	170		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-2	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:11

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-002B **Matrix: Ground Water**
Description: MW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	1.1		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-002 **Matrix: Ground Water**
Description: MW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
3. Aniline	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
4. Anthracene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-2	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:11

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-002
Description: MW-2
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
23. Chrysene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
34. Fluorene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
37. Hexachlorocyclopentadiene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
40. Isophorone	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-2	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:11

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-002 **Matrix: Ground Water**
Description: MW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
59. Phenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
60. Pyrene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
61. Pyridine	U	*	µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-3	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-003	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	280		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	630		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-003A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-003B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-3	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-003B **Matrix: Ground Water**
Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	4.1		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-3	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-003B **Matrix: Ground Water**
Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-003 **Matrix: Ground Water**
Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
3. Aniline	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
4. Anthracene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-3	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-003
Description: MW-3
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
23. Chrysene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
34. Fluorene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
36. Hexachlorobutadiene	U		µg/L	5.1	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
37. Hexachlorocyclopentadiene	U		µg/L	5.1	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
38. Hexachloroethane	U		µg/L	5.1	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
40. Isophorone	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-3	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-003 **Matrix: Ground Water**
Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
59. Phenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
60. Pyrene	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
61. Pyridine	U	*	µg/L	5.1	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.1	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	06/19/19	PS19F19E	06/21/19	S619F21A	GJP

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-4	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:55

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-004	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-4				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	3100		µg/L	200	1.7	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	780		µg/L	200	1.7	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-004A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-4				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-004B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-4				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	53		µg/L	50	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	760		µg/L	50	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	25	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-4	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:55

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-004B
Description: MW-4
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
23. Dibromomethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	5.4		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	25	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	77		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-4	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:55

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-004B **Matrix: Ground Water**
Description: MW-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	7.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-004 **Matrix: Ground Water**
Description: MW-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-4	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:55

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-004
Description: MW-4
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	24	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification: Bureau Veritas North America, Inc.	Sample Description: MW-4	Chain of Custody: NA
Client Project Name: PSC (11019-000076.00.001)	Sample No:	Collect Date: 06/13/19
Client Project No: 11019-000076.00.001	Sample Matrix: Ground Water	Collect Time: 09:55

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-004 **Matrix: Ground Water**
Description: MW-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	6.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-5	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:12

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-005	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-5				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	450		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-005A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-5				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-005B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-5				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-5	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:12

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-005B
Description: MW-5
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	5.8		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	7.7		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-5	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:12

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-005B **Matrix: Ground Water**
Description: MW-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-005 **Matrix: Ground Water**
Description: MW-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-5	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:12

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-005
Description: MW-5
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-5	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:12

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-005 **Matrix: Ground Water**
Description: MW-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.6	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/21/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-6	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:28

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-006	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-6				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	230		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	400		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-006A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-6				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-006B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-6				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	250		µg/L	50	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	25	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-6	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:28

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-006B
Description: MW-6
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
23. Dibromomethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 38. Diisopropyl Ether	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	25	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	610		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	10	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-6	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:28

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-006B **Matrix: Ground Water**
Description: MW-6

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	5.0	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	2.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	7.5	5.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-006 **Matrix: Ground Water**
Description: MW-6

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-6	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:28

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-006
Description: MW-6
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.4	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.4	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.4	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification: Bureau Veritas North America, Inc.	Sample Description: MW-6	Chain of Custody: NA
Client Project Name: PSC (11019-000076.00.001)	Sample No:	Collect Date: 06/13/19
Client Project No: 11019-000076.00.001	Sample Matrix: Ground Water	Collect Time: 10:28

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-006 **Matrix: Ground Water**
Description: MW-6

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.4	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.4	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT



Analytical Laboratory Report
Laboratory Project Number: 91080
Laboratory Sample Number: 91080-007

Order: 91080
Page: 32 of 74
Date: 06/25/19

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-7	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:55

Sample Comments:

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

Gasoline Range Organics (GRO)
Method: EPA 5021A/EPA 8015C

Aliquot ID: 91080-007A Matrix: Ground Water
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-007B Matrix: Ground Water
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	20	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-7	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:55

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-007B **Matrix: Ground Water**
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-7	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:55

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-007B **Matrix: Ground Water**
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-007 **Matrix: Ground Water**
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-7	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:55

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-007
Description: MW-7
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
27. Diethyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	24	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.2	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	6.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	6.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 91080
Laboratory Sample Number: 91080-007

Order: 91080
Page: 36 of 74
Date: 06/25/19

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-7	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	10:55

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-007 Matrix: Ground Water
Description: MW-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.2	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-8	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-008	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-8				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	400		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	600		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-008A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-8				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-008B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-8				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	69		µg/L	50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-8	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-008B
Description: MW-8
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	7.2		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-8	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-008B **Matrix: Ground Water**
Description: MW-8

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-008 **Matrix: Ground Water**
Description: MW-8

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-8	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-008
Description: MW-8
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-8	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-008 **Matrix: Ground Water**
Description: MW-8

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-9	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	07:49

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-009	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-9				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	270		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-009A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-9				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-009B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-9				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	U		µg/L	130	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	U		µg/L	25	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-9	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	07:49

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-009B **Matrix: Ground Water**
Description: MW-9

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
31. 1,1-Dichloroethene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	5.1	E1	µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	25	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	15	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	520		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	25	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	25	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-9	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	07:49

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-009B **Matrix: Ground Water**
Description: MW-9

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
68. 1,3,5-Trimethylbenzene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	U		µg/L	5.0	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	U		µg/L	2.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	U		µg/L	7.5	5.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-009 **Matrix: Ground Water**
Description: MW-9

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-9	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	07:49

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-009
Description: MW-9
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-9	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	07:49

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-009 **Matrix: Ground Water**
Description: MW-9

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 91080
Laboratory Sample Number: 91080-010

Order: 91080
Page: 47 of 74
Date: 06/25/19

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-10	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	08:42

Sample Comments:

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

Gasoline Range Organics (GRO)
Method: EPA 5021A/EPA 8015C

Aliquot ID: 91080-010A
Description: MW-10
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-010B
Description: MW-10
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	20	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-10	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	08:42

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-010B
Description: MW-10
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	4.1		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-10	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	08:42

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-010B **Matrix: Ground Water**
Description: MW-10

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-010 **Matrix: Ground Water**
Description: MW-10

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-10	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	08:42

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-010
Description: MW-10
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	23	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.7	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.7	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.7	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.7	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.7	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 91080
Laboratory Sample Number: 91080-010

Order: 91080
Page: 51 of 74
Date: 06/25/19

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-10	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	08:42

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-010 Matrix: Ground Water
Description: MW-10

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-11	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:04

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-011	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-11				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	4600		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	960		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-011A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-11				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	160000		µg/L	20000	200	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-011B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-11				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	29000		µg/L	10000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	U		µg/L	25000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	9300		µg/L	5000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-11	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:04

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-011B
Description: MW-11
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	800		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
31. 1,1-Dichloroethene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	8800		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	13000		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	42000		µg/L	5000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	3000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	6300		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	5000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	20000		µg/L	5000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	83000		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-11	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:04

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-011B **Matrix: Ground Water**
Description: MW-11

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	2000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	550		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
68. 1,3,5-Trimethylbenzene	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	44000		µg/L	1000	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	12000		µg/L	500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	56000		µg/L	1500	1000	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-011 **Matrix: Ground Water**
Description: MW-11

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-11	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:04

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-011
Description: MW-11
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	51		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	430	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	210	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	87		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	150		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-11	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	11:04

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-011 **Matrix: Ground Water**
Description: MW-11

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	210	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	500		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	110	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	21	21	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-12	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:00

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-012	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: MW-12				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	240		µg/L	200	1.0	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-012A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: MW-12				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-012B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: MW-12				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-12	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:00

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-012B
Description: MW-12
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
49. MTBE	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-12	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:00

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-012B **Matrix: Ground Water**
Description: MW-12

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VM19F18A	06/18/19	VM19F18A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-012 **Matrix: Ground Water**
Description: MW-12

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-12	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:00

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS						Aliquot ID: 91080-012	Matrix: Ground Water			
Method: EPA 3510C/EPA 8270E						Description: MW-12				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	21	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	MW-12	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	09:00

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-012
Description: MW-12
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Duplicate	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-013	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: Duplicate				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	470		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-013A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: Duplicate				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-013B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: Duplicate				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 2. Acrylonitrile	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
3. Benzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
4. Bromobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
5. Bromochloromethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
6. Bromodichloromethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
7. Bromoform	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
8. Bromomethane	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
9. t-Butanol	U		µg/L	130	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
10. 2-Butanone	U		µg/L	25	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
11. n-Butylbenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
12. sec-Butylbenzene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
13. tert-Butylbenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
14. Carbon Disulfide	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
15. Carbon Tetrachloride	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
16. Chlorobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
17. Chloroethane	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
18. Chloroform	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
19. Chloromethane	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
22. Dibromochloromethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Duplicate	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-013B
Description: Duplicate
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U	L+	µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
28. Dichlorodifluoromethane	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
29. 1,1-Dichloroethane	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
30. 1,2-Dichloroethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
31. 1,1-Dichloroethene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
34. 1,2-Dichloropropane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
37. Diethyl Ether	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 38. Diisopropyl Ether	5.8		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 39. ETBE	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
40. Ethylbenzene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
41. Ethylene Dibromide	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 42. Hexachloroethane	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
43. 2-Hexanone	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
44. Isopropylbenzene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
45. 4-Isopropyltoluene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	25	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
47. Methylene Chloride	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	15	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
49. MTBE	580		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
50. Naphthalene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
51. n-Propylbenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
52. Styrene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 53. TAME	U		µg/L	25	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
56. Tetrachloroethene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	25	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
58. Toluene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Duplicate	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-013B
Description: Duplicate
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
63. Trichloroethene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
64. Trichlorofluoromethane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
69. Vinyl Chloride	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
70. m&p-Xylene	U		µg/L	5.0	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
71. o-Xylene	U		µg/L	2.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM
‡ 72. Xylenes	U		µg/L	7.5	5.0	06/20/19	VM19F20A	06/20/19	VM19F20A	JLM

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-013
Description: Duplicate
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Duplicate	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-013
Description: Duplicate
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	21	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Duplicate	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-013
Description: Duplicate
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.3	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Rinsate Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	16:00

Sample Comments:

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

DRO+ORO by GC/FID						Aliquot ID: 91080-014	Matrix: Ground Water			
Method: EPA 3510C/EPA 8015C						Description: Rinsate Blank				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT
2. ORO (C20-C34)	U		µg/L	200	1.1	06/18/19	PS19F18H	06/19/19	S919F18A	TKT

Gasoline Range Organics (GRO)						Aliquot ID: 91080-014A	Matrix: Ground Water			
Method: EPA 5021A/EPA 8015C						Description: Rinsate Blank				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. GRO (C6-C10)	U		µg/L	200	1.0	06/21/19	SK19F21A	06/21/19	SK19F21B	RKP

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: 91080-014B	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260B						Description: Rinsate Blank				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
3. Benzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
4. Bromobenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
5. Bromochloromethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
7. Bromoform	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
8. Bromomethane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
9. t-Butanol	U		µg/L	50	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
10. 2-Butanone	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
16. Chlorobenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
17. Chloroethane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
18. Chloroform	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
19. Chloromethane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Rinsate Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	16:00

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-014B
Description: Rinsate Blank
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. Dibromomethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
37. Diethyl Ether	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 39. ETBE	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
40. Ethylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
43. 2-Hexanone	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
47. Methylene Chloride	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
49. MTBE	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
50. Naphthalene	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
52. Styrene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 53. TAME	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
58. Toluene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Rinsate Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	16:00

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-014B **Matrix: Ground Water**
Description: Rinsate Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
63. Trichloroethene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
70. m&p-Xylene	U		µg/L	2.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
71. o-Xylene	U		µg/L	1.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/19/19	VM19F19A	06/19/19	VM19F19A	MAK

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-014 **Matrix: Ground Water**
Description: Rinsate Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
3. Aniline	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
4. Anthracene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 5. 1,2-Diphenylhydrazine (as Azobenzene)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
6. Benzo(a)anthracene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
7. Benzo(a)pyrene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Rinsate Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	16:00

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-014
Description: Rinsate Blank
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
23. Chrysene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
30. 2,4-Dinitrophenol	U		µg/L	22	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
33. Fluoranthene	U		µg/L	1.1	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
34. Fluorene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
36. Hexachlorobutadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
37. Hexachlorocyclopentadiene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
38. Hexachloroethane	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
40. Isophorone	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
45. Naphthalene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
51. 4-Nitrophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Rinsate Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Ground Water	Collect Time:	16:00

Sample Comments:

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

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: 91080-014 **Matrix: Ground Water**
Description: Rinsate Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
57. Pentachlorophenol	U		µg/L	20	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
58. Phenanthrene	U		µg/L	2.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
59. Phenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
60. Pyrene	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
61. Pyridine	U	*	µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.6	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.1	06/19/19	PS19F19E	06/22/19	S619F21B	TKT

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Trip Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-015
Description: Trip Blank
Matrix: Blank: Trip

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	20	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 2. Acrylonitrile	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
9. t-Butanol	U		µg/L	50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
10. 2-Butanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
11. n-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
12. sec-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
13. tert-Butylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
14. Carbon Disulfide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
15. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
16. Chlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
17. Chloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
18. Chloroform	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
19. Chloromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 20. Cyclohexane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 21. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
22. Dibromochloromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
23. Dibromomethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
24. trans-1,4-Dichloro-2-butene (SIM)	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
25. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
26. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
27. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
28. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
29. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
30. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
31. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
32. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
33. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
34. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
37. Diethyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Bureau Veritas North America, Inc.	Sample Description:	Trip Blank	Chain of Custody:	NA
Client Project Name:	PSC (11019-000076.00.001)	Sample No:		Collect Date:	06/13/19
Client Project No:	11019-000076.00.001	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

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

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260B

Aliquot ID: 91080-015
Description: Trip Blank
Matrix: Blank: Trip

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 38. Diisopropyl Ether	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 39. ETBE	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
40. Ethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
41. Ethylene Dibromide	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 42. Hexachloroethane	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
43. 2-Hexanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
44. Isopropylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
45. 4-Isopropyltoluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
46. 4-Methyl-2-pentanone	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
47. Methylene Chloride	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 48. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
49. MTBE	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
50. Naphthalene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
51. n-Propylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
52. Styrene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 53. TAME	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
54. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
55. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
56. Tetrachloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 57. Tetrahydrofuran	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
58. Toluene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
59. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
60. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
61. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
62. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
63. Trichloroethene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
64. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
65. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 66. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
67. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
68. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
69. Vinyl Chloride	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
70. m&p-Xylene	U		µg/L	2.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
71. o-Xylene	U		µg/L	1.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM
‡ 72. Xylenes	U		µg/L	3.0	1.0	06/18/19	VB19F18A	06/18/19	VB19F18A	JLM

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
E1 : The reported value is estimated due to the presence of interference.
L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F18H: Method Blank (MB)

EPA 8015C

Run Time: PS19F18H.MB 06/19/2019 11:10 [S919F18A]

Analyte	MB Result	MB Qualifier	MB RDL
DRO (C10-C20)	U		200
<i>n</i> -Eicosane(S)	86		70-130

PS19F18H: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8015C

Run Time: PS19F18H.LCS: 06/19/2019 11:38 [S919F18A] PS19F18H.LCSD: 06/19/2019 12:06 [S919F18A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
DRO (C10-C20)	2000	1510	75	28-127		2000	1970	99		28	30	
<i>n</i> -Eicosane(S)			333	70-130	*			412	*			

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F19E: Method Blank (MB)

EPA 8270E

Run Time: PS19F19E.MB 06/21/2019 11:47 [S619F21A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Acenaphthene	U		5.0
Acenaphthylene	U		5.0
Aniline	U		4.0
Anthracene	U		5.0
Azobenzene	U		5.0
Benzo(a)anthracene	U		1.0
Benzo(a)pyrene	U		1.0
Benzo(b)fluoranthene	U		1.0
Benzo(ghi)perylene	U		1.0
Benzo(k)fluoranthene	U		1.0
Benzyl Alcohol	U		5.0
Bis(2-chloroethoxy)methane	U		5.0
Bis(2-chloroethyl)ether	U		1.0
Bis(2-ethylhexyl)phthalate	U		5.0
4-Bromophenyl Phenylether	U		5.0
Butyl Benzyl Phthalate	U		5.0
Di-n-butyl Phthalate	U		5.0
Carbazole	U		5.0
4-Chloro-3-methylphenol	U		5.0
2-Chloronaphthalene	U		5.0
2-Chlorophenol	U		5.0
4-Chlorophenyl Phenylether	U		5.0
Chrysene	U		1.0
Dibenzo(a,h)anthracene	U		2.0
Dibenzofuran	U		4.0
2,4-Dichlorophenol	U		5.0
Diethyl Phthalate	U		5.0
2,4-Dimethylphenol	U		5.0
Dimethyl Phthalate	U		5.0
2,4-Dinitrophenol	U		20
2,4-Dinitrotoluene	U		5.0
2,6-Dinitrotoluene	U		5.0
Fluoranthene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F19E: Method Blank (MB)

EPA 8270E

Run Time: PS19F19E.MB 06/21/2019 11:47 [S619F21A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Fluorene	U		5.0
Hexachlorobenzene	U		5.0
Hexachlorobutadiene	U		5.0
Hexachlorocyclopentadiene	U		5.0
Hexachloroethane	U		1.0
Indeno(1,2,3-cd)pyrene	U		2.0
Isophorone	U		5.0
2-Methyl-4,6-dinitrophenol	U		20
2-Methylnaphthalene	U		5.0
2-Methylphenol	U		5.0
3&4-Methylphenol	U		10
Naphthalene	U		5.0
2-Nitroaniline	U		20
3-Nitroaniline	U		20
4-Nitroaniline	U		20
Nitrobenzene	U		3.0
2-Nitrophenol	U		5.0
4-Nitrophenol	U		20
N-Nitrosodimethylamine	U		5.0
N-Nitrosodi-n-propylamine	U		5.0
N-Nitrosodiphenylamine	U		5.0
Di-n-octyl Phthalate	U		5.0
2,2'-Oxybis(1-chloropropane)	U		5.0
Pentachlorophenol	U		20
Phenanthrene	U		2.0
Phenol	U		5.0
Pyrene	U		5.0
Pyridine	U		5.0
1,2,4-Trichlorobenzene	U		5.0
2,4,5-Trichlorophenol	U		5.0
2,4,6-Trichlorophenol	U		4.0
2-Fluorobiphenyl(S)	74		44-109
1-Fluoronaphthalene(S)	69		44-103

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F19E: Method Blank (MB)

EPA 8270E

Run Time: PS19F19E.MB 06/21/2019 11:47 [S619F21A]

	MB Result	MB Qualifier	MB RDL
Analyte	µg/L		µg/L
2-Fluorophenol(S)	36		22-85
Phenol-d6(S)	27		11-60
4-Terphenyl-d14(S)	102		44-124
2,4,6-Tribromophenol(S)	72		38-138

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F19E: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8270E

Run Time: PS19F19E.LCS: 06/21/2019 12:30 [S619F21A] PS19F19E.LCSD: 06/21/2019 13:13 [S619F21A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Acenaphthene	80.0	70.2	88	60-107		80.0	69.6	87		1	30	
Acenaphthylene	80.0	71.5	89	54-107		80.0	71.3	89		0	30	
Aniline	80.0	50.1	63	19-117		80.0	43.3	54		15	30	
Anthracene	80.0	79.9	100	55-112		80.0	78.8	98		2	30	
Azobenzene	80.0	72.4	91	59-105		80.0	71.6	89		2	30	
Benzo(a)anthracene	80.0	80.1	100	59-116		80.0	78.6	98		2	30	
Benzo(a)pyrene	80.0	77.2	97	60-118		80.0	76.2	95		2	30	
Benzo(b)fluoranthene	80.0	86.6	108	58-118		80.0	84.6	106		2	30	
Benzo(ghi)perylene	80.0	95.7	120	47-122		80.0	98.3	123		2	30	
Benzo(k)fluoranthene	80.0	84.2	105	56-120		80.0	82.0	102		3	30	
Benzyl Alcohol	80.0	52.3	65	39-100		80.0	51.7	65		0	30	
Bis(2-chloroethoxy)methane	80.0	81.8	102	60-112		80.0	80.2	100		2	30	
Bis(2-chloroethyl)ether	80.0	73.8	92	53-110		80.0	72.1	90		2	30	
Bis(2-ethylhexyl)phthalate	80.0	91.3	114	57-126		80.0	88.4	111		3	30	
4-Bromophenyl Phenylether	80.0	79.8	100	65-109		80.0	78.4	98		2	30	
Butyl Benzyl Phthalate	80.0	88.5	111	60-120		80.0	85.4	107		4	30	
Di-n-butyl Phthalate	80.0	88.3	110	60-114		80.0	86.5	108		2	30	
Carbazole	80.0	77.4	97	59-120		80.0	76.7	96		1	30	
4-Chloro-3-methylphenol	80.0	51.1	64	50-120		80.0	55.3	69		8	30	
2-Chloronaphthalene	80.0	64.5	81	65-118		80.0	65.1	81		0	30	
2-Chlorophenol	80.0	45.2	56	43-110		80.0	48.7	61		9	30	
4-Chlorophenyl Phenylether	80.0	77.7	97	59-106		80.0	76.3	95		2	30	
Chrysene	80.0	80.6	101	56-117		80.0	78.8	99		2	30	
Dibenzo(a,h)anthracene	80.0	92.8	116	48-128		80.0	94.9	119		3	30	
Dibenzofuran	80.0	71.0	89	56-106		80.0	70.5	88		1	30	
2,4-Dichlorophenol	80.0	53.0	66	53-118		80.0	57.2	71		7	30	
Diethyl Phthalate	80.0	79.4	99	54-114		80.0	79.0	99		0	30	
2,4-Dimethylphenol	80.0	54.2	68	51-114		80.0	57.7	72		6	30	
Dimethyl Phthalate	80.0	69.7	87	64-111		80.0	71.5	89		2	30	
2,4-Dinitrophenol	80.0	54.6	68	43-132		80.0	60.7	76		11	30	
2,4-Dinitrotoluene	80.0	83.9	105	68-119		80.0	82.5	103		2	30	
2,6-Dinitrotoluene	80.0	84.8	106	68-114		80.0	84.3	105		1	30	
Fluoranthene	80.0	85.5	107	57-119		80.0	83.7	105		2	30	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

PS19F19E: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8270E

Run Time: PS19F19E.LCS: 06/21/2019 12:30 [S619F21A] PS19F19E.LCSD: 06/21/2019 13:13 [S619F21A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Fluorene	80.0	75.5	94	70-112		80.0	74.8	94		0	30	
Hexachlorobenzene	80.0	79.3	99	60-113		80.0	77.9	97		2	30	
Hexachlorobutadiene	80.0	47.8	60	38-116		80.0	50.3	63		5	30	
Hexachlorocyclopentadiene	80.0	44.4	56	17-89		80.0	44.9	56		0	30	
Hexachloroethane	80.0	45.6	57	55-113		80.0	47.5	59		3	30	
Indeno(1,2,3-cd)pyrene	80.0	95.7	120	54-130		80.0	99.3	124		3	30	
Isophorone	80.0	96.2	120	55-123		80.0	94.3	118		2	30	
2-Methyl-4,6-dinitrophenol	80.0	62.4	78	53-116		80.0	65.8	82		5	30	
2-Methylnaphthalene	80.0	62.2	78	42-100		80.0	62.3	78		0	30	
2-Methylphenol	80.0	41.5	52	39-103		80.0	44.9	56		7	30	
3&4-Methylphenol	80.0	33.8	42	30-86		80.0	36.6	46		9	30	
Naphthalene	80.0	57.1	71	39-100		80.0	57.3	72		1	30	
2-Nitroaniline	80.0	76.3	95	59-121		80.0	76.1	95		0	30	
3-Nitroaniline	80.0	68.6	86	45-120		80.0	63.6	79		8	30	
4-Nitroaniline	80.0	75.1	94	46-126		80.0	75.7	95		1	30	
Nitrobenzene	80.0	75.6	95	56-111		80.0	74.3	93		2	30	
2-Nitrophenol	80.0	61.5	77	56-112		80.0	64.5	81		5	30	
4-Nitrophenol	80.0	26.2	33	21-59		80.0	27.7	35		6	30	
N-Nitrosodimethylamine	80.0	46.9	59	29-89		80.0	46.7	58		2	30	
N-Nitrosodi-n-propylamine	80.0	71.6	90	59-118		80.0	70.0	87		3	30	
N-Nitrosodiphenylamine	80.0	89.1	111	70-129		80.0	88.3	110		1	30	
Di-n-octyl Phthalate	80.0	91.8	115	60-124		80.0	87.3	109		5	30	
2,2'-Oxybis(1-chloropropane)	80.0	71.5	89	63-116		80.0	69.8	87		2	30	
Pentachlorophenol	80.0	68.7	86	46-115		80.0	70.0	88		2	30	
Phenanthrene	80.0	77.8	97	65-112		80.0	77.1	96		1	30	
Phenol	80.0	23.4	29	17-54		80.0	24.8	31		7	30	
Pyrene	80.0	83.4	104	70-115		80.0	82.2	103		1	30	
Pyridine	80.0	29.1	36	15-68		80.0	18.4	23		44	30	*
1,2,4-Trichlorobenzene	80.0	52.1	65	57-130		80.0	53.0	66		2	30	
2,4,5-Trichlorophenol	80.0	60.7	76	55-112		80.0	64.0	80		5	30	
2,4,6-Trichlorophenol	80.0	63.1	79	60-115		80.0	65.3	82		4	30	
2-Fluorobiphenyl(S)			86	44-109				83				
1-Fluoronaphthalene(S)			83	44-103				81				

 1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

 Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

 T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

 F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584

PS19F19E: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8270E

Run Time: PS19F19E.LCS: 06/21/2019 12:30 [S619F21A] PS19F19E.LCSD: 06/21/2019 13:13 [S619F21A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
2-Fluorophenol(S)			40	22-85				43				
Phenol-d6(S)			30	11-60				31				
4-Terphenyl-d14(S)			108	44-124				103				
2,4,6-Tribromophenol(S)			85	38-138				85				

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

SK19F21A: Method Blank (MB)

EPA 8015C

Run Time: SK19F21A.MB 06/21/2019 11:38 [SK19F21B]

Analyte	MB Result	MB Qualifier	MB RDL
GRO (C6-C10)	µg/L		µg/L
	U		200
2,5-Dibromotoluene(S)	129		70-130

SK19F21A: Laboratory Control Sample (LCS)

EPA 8015C

Run Time: SK19F21A.LCS: 06/21/2019 12:21 [SK19F21B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
GRO (C6-C10)	µg/L	µg/L	%	%	
	2000	1700	85	60-120	
2,5-Dibromotoluene(S)			113	70-130	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VB19F18A: Method Blank (MB)

EPA 8260B

Run Time: VB19F18A.MB 06/18/2019 12:25 [VB19F18A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Acetone	U		20
Acrylonitrile	U		5.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform	U		1.0
Bromomethane	U		5.0
t-Butanol	U		50
2-Butanone	U		5.0
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		1.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
Cyclohexane	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		5.0
Dibromochloromethane	U		1.0
Dibromomethane	U		1.0
trans-1,4-Dichloro-2-butene (SIM)	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VB19F18A: Method Blank (MB)

EPA 8260B

Run Time: VB19F18A.MB 06/18/2019 12:25 [VB19F18A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Diethyl Ether	U		5.0
Diisopropyl Ether	U		5.0
ETBE	U		5.0
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
Hexachloroethane	U		5.0
2-Hexanone	U		5.0
Isopropylbenzene	U		1.0
4-Isopropyltoluene	U		1.0
4-Methyl-2-pentanone	U		5.0
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		1.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
TAME	U		5.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Tetrahydrofuran	U		5.0
Toluene	U		1.0
1,2,3-Trichlorobenzene	U		5.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VB19F18A: Method Blank (MB)

EPA 8260B

Run Time: VB19F18A.MB 06/18/2019 12:25 [VB19F18A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	100		80-120
Dibromofluoromethane(S)	100		80-120
1,2-Dichloroethane-d4(S)	106		80-120
Toluene-d8(S)	99		80-120

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VB19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8260B

Run Time: VB19F18A.LCS: 06/18/2019 11:03 [VB19F18A] VB19F18A.LCSD: 06/18/2019 11:30 [VB19F18A]

	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
Analyte	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Acetone	50.0	46.4	93	54-140		50.0	40.4	81		14	20	
Acrylonitrile	50.0	47.0	94	70-130		50.0	45.2	90		4	20	
Benzene	50.0	49.5	99	80-120		50.0	48.1	96		3	20	
Bromobenzene	50.0	49.4	99	75-125		50.0	47.5	95		4	20	
Bromochloromethane	50.0	47.0	94	70-130		50.0	44.7	89		5	20	
Bromodichloromethane	50.0	54.6	109	75-120		50.0	53.2	106		3	20	
Bromoform	50.0	56.0	112	70-130		50.0	53.8	108		4	20	
Bromomethane	50.0	57.6	115	68-135		50.0	52.5	105		9	20	
t-Butanol	250	266	107	70-147		250	258	103		4	20	
2-Butanone	50.0	48.9	98	70-148		50.0	46.4	93		5	20	
n-Butylbenzene	50.0	53.6	107	70-133		50.0	51.4	103		4	20	
sec-Butylbenzene	50.0	53.0	106	70-125		50.0	50.7	101		5	20	
tert-Butylbenzene	50.0	53.6	107	70-130		50.0	51.0	102		5	20	
Carbon Disulfide	50.0	53.9	108	70-130		50.0	51.3	103		5	20	
Carbon Tetrachloride	50.0	62.0	124	70-130		50.0	59.7	119		4	20	
Chlorobenzene	50.0	51.4	103	80-120		50.0	49.2	98		5	20	
Chloroethane	50.0	56.9	114	61-130		50.0	54.0	108		5	20	
Chloroform	50.0	54.1	108	80-120		50.0	50.0	100		8	20	
Chloromethane	50.0	47.1	94	67-125		50.0	45.0	90		4	20	
Cyclohexane	50.0	54.4	109	70-130		50.0	50.7	101		8	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	51.9	104	70-130		50.0	51.0	102		2	20	
Dibromochloromethane	50.0	54.2	108	70-130		50.0	53.6	107		1	20	
Dibromomethane	50.0	51.8	104	75-125		50.0	50.8	102		2	20	
trans-1,4-Dichloro-2-butene (SIM)	50.0	56.9	114	70-135		50.0	55.3	111		3	20	
1,2-Dichlorobenzene	50.0	50.2	100	70-120		50.0	48.9	98		2	20	
1,3-Dichlorobenzene	50.0	48.2	96	75-125		50.0	47.0	94		2	20	
1,4-Dichlorobenzene	50.0	49.4	99	75-125		50.0	47.6	95		4	20	
Dichlorodifluoromethane	50.0	74.7	149	70-136	*	50.0	69.5	139		7	20	
1,1-Dichloroethane	50.0	52.6	105	70-130		50.0	49.2	98		7	20	
1,2-Dichloroethane	50.0	52.6	105	70-130		50.0	51.4	103		2	20	
1,1-Dichloroethene	50.0	59.0	118	78-120		50.0	55.7	111		6	20	
cis-1,2-Dichloroethene	50.0	50.3	101	70-125		50.0	49.0	98		3	20	
trans-1,2-Dichloroethene	50.0	55.3	111	70-130		50.0	52.0	104		7	20	

 1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

 Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

 T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

 F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584

VB19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VB19F18A.LCS: 06/18/2019 11:03 [VB19F18A] VB19F18A.LCSD: 06/18/2019 11:30 [VB19F18A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2-Dichloropropane	50.0	51.3	103	80-121		50.0	50.6	101		2	20	
cis-1,3-Dichloropropene	50.0	51.7	103	70-130		50.0	51.0	102		1	20	
trans-1,3-Dichloropropene	50.0	52.9	106	70-132		50.0	52.2	104		2	20	
Diethyl Ether	50.0	47.9	96	70-130		50.0	46.7	93		3	20	
Diisopropyl Ether	50.0	48.2	96	70-134		50.0	46.2	92		4	20	
ETBE	50.0	50.2	100	70-130		50.0	48.0	96		4	20	
Ethylbenzene	50.0	52.0	104	80-120		50.0	49.7	99		5	20	
Ethylene Dibromide	50.0	51.6	103	80-120		50.0	49.6	99		4	20	
Hexachloroethane	50.0	54.3	109	70-130		50.0	52.3	105		4	20	
2-Hexanone	50.0	48.3	97	70-130		50.0	46.8	94		3	20	
Isopropylbenzene	50.0	53.5	107	75-125		50.0	51.0	102		5	20	
4-Isopropyltoluene	50.0	54.9	110	70-135		50.0	51.9	104		6	20	
4-Methyl-2-pentanone	50.0	49.3	99	70-130		50.0	48.1	96		3	20	
Methylene Chloride	50.0	49.9	100	70-130		50.0	47.8	96		4	20	
2-Methylnaphthalene	50.0	53.2	106	70-130		50.0	52.3	105		1	20	
MTBE	50.0	50.3	101	70-125		50.0	48.4	97		4	20	
Naphthalene	50.0	50.8	102	70-130		50.0	49.6	99		3	20	
n-Propylbenzene	50.0	52.2	104	70-130		50.0	50.3	101		3	20	
Styrene	50.0	53.1	106	70-130		50.0	50.6	101		5	20	
TAME	50.0	49.7	99	70-130		50.0	48.7	97		2	20	
1,1,1,2-Tetrachloroethane	50.0	53.7	107	80-130		50.0	53.2	106		1	20	
1,1,2,2-Tetrachloroethane	50.0	47.8	96	70-130		50.0	46.2	92		4	20	
Tetrachloroethene	50.0	56.6	113	70-130		50.0	53.2	106		6	20	
Tetrahydrofuran	50.0	43.5	87	70-131		50.0	43.9	88		1	20	
Toluene	50.0	51.4	103	80-120		50.0	50.3	101		2	20	
1,2,3-Trichlorobenzene	50.0	50.5	101	70-130		50.0	49.0	98		3	20	
1,2,4-Trichlorobenzene	50.0	50.7	101	70-130		50.0	49.1	98		3	20	
1,1,1-Trichloroethane	50.0	57.8	116	70-130		50.0	54.4	109		6	20	
1,1,2-Trichloroethane	50.0	51.3	103	75-125		50.0	49.6	99		4	20	
Trichloroethene	50.0	54.8	110	71-125		50.0	53.3	107		3	20	
Trichlorofluoromethane	50.0	62.8	126	70-133		50.0	59.7	119		6	20	
1,2,3-Trichloropropane	50.0	49.8	100	75-125		50.0	48.1	96		4	20	
1,2,3-Trimethylbenzene	50.0	51.6	103	70-130		50.0	50.1	100		3	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VB19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VB19F18A.LCS: 06/18/2019 11:03 [VB19F18A] VB19F18A.LCSD: 06/18/2019 11:30 [VB19F18A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2,4-Trimethylbenzene	50.0	52.7	105	75-130		50.0	50.6	101		4	20	
1,3,5-Trimethylbenzene	50.0	53.4	107	75-130		50.0	51.2	102		5	20	
Vinyl Chloride	50.0	56.2	112	74-125		50.0	52.8	106		6	20	
m&p-Xylene	100	105	105	75-130		100	101	101		4	20	
o-Xylene	50.0	52.4	105	80-120		50.0	50.2	100		5	20	
4-Bromofluorobenzene(S)			99	80-120				97				
Dibromofluoromethane(S)			102	80-120				101				
1,2-Dichloroethane-d4(S)			104	80-120				105				
Toluene-d8(S)			98	80-120				99				

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Method Blank (MB)

EPA 8260B

Run Time: VM19F18A.MB 06/18/2019 16:51 [VM19F18A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Acetone	U		20
Acrylonitrile	U		5.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform	U		1.0
Bromomethane	U		5.0
t-Butanol	U		50
2-Butanone	U		5.0
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		1.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
Cyclohexane	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		5.0
Dibromochloromethane	U		1.0
Dibromomethane	U		1.0
trans-1,4-Dichloro-2-butene (SIM)	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Method Blank (MB)

EPA 8260B

Run Time: VM19F18A.MB 06/18/2019 16:51 [VM19F18A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Diethyl Ether	U		5.0
Diisopropyl Ether	U		5.0
ETBE	U		5.0
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
Hexachloroethane	U		5.0
2-Hexanone	U		5.0
Isopropylbenzene	U		1.0
4-Isopropyltoluene	U		1.0
4-Methyl-2-pentanone	U		5.0
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		1.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
TAME	U		5.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Tetrahydrofuran	U		5.0
Toluene	U		1.0
1,2,3-Trichlorobenzene	U		5.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Method Blank (MB)

EPA 8260B

Run Time: VM19F18A.MB 06/18/2019 16:51 [VM19F18A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	100		80-120
Dibromofluoromethane(S)	95		80-120
1,2-Dichloroethane-d4(S)	99		80-120
Toluene-d8(S)	100		80-120

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F18A.LCS: 06/18/2019 15:32 [VM19F18A] VM19F18A.LCSD: 06/18/2019 15:58 [VM19F18A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Acetone	50.0	49.6	99	54-140		50.0	44.9	90		10	20	
Acrylonitrile	50.0	51.3	103	70-130		50.0	48.9	98		5	20	
Benzene	50.0	50.4	101	80-120		50.0	47.1	94		7	20	
Bromobenzene	50.0	53.0	106	75-125		50.0	49.9	100		6	20	
Bromochloromethane	50.0	50.8	102	70-130		50.0	48.2	96		6	20	
Bromodichloromethane	50.0	50.9	102	75-120		50.0	48.3	97		5	20	
Bromoform	50.0	51.2	102	70-130		50.0	48.7	97		5	20	
Bromomethane	50.0	55.1	110	68-135		50.0	50.0	100		10	20	
t-Butanol	250	264	106	70-147		250	249	100		6	20	
2-Butanone	50.0	54.0	108	70-148		50.0	51.0	102		6	20	
n-Butylbenzene	50.0	53.3	107	70-133		50.0	49.5	99		8	20	
sec-Butylbenzene	50.0	51.2	102	70-125		50.0	47.1	94		8	20	
tert-Butylbenzene	50.0	51.9	104	70-130		50.0	48.0	96		8	20	
Carbon Disulfide	50.0	51.4	103	70-130		50.0	46.8	94		9	20	
Carbon Tetrachloride	50.0	53.8	108	70-130		50.0	49.7	99		9	20	
Chlorobenzene	50.0	50.4	101	80-120		50.0	47.3	95		6	20	
Chloroethane	50.0	54.6	109	61-130		50.0	49.3	99		10	20	
Chloroform	50.0	48.4	97	80-120		50.0	45.6	91		6	20	
Chloromethane	50.0	49.3	99	67-125		50.0	45.3	91		8	20	
Cyclohexane	50.0	56.2	112	70-130		50.0	51.5	103		8	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	51.3	103	70-130		50.0	48.6	97		6	20	
Dibromochloromethane	50.0	49.7	99	70-130		50.0	47.1	94		5	20	
Dibromomethane	50.0	49.7	99	75-125		50.0	47.1	94		5	20	
trans-1,4-Dichloro-2-butene (SIM)	50.0	64.5	129	70-135		50.0	61.3	123		5	20	
1,2-Dichlorobenzene	50.0	51.1	102	70-120		50.0	48.2	96		6	20	
1,3-Dichlorobenzene	50.0	51.0	102	75-125		50.0	48.0	96		6	20	
1,4-Dichlorobenzene	50.0	50.8	102	75-125		50.0	47.8	96		6	20	
Dichlorodifluoromethane	50.0	61.7	123	70-136		50.0	56.7	113		8	20	
1,1-Dichloroethane	50.0	50.4	101	70-130		50.0	47.0	94		7	20	
1,2-Dichloroethane	50.0	50.7	101	70-130		50.0	48.5	97		4	20	
1,1-Dichloroethene	50.0	54.3	109	78-120		50.0	49.5	99		10	20	
cis-1,2-Dichloroethene	50.0	50.6	101	70-125		50.0	46.9	94		7	20	
trans-1,2-Dichloroethene	50.0	52.9	106	70-130		50.0	48.5	97		9	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F18A.LCS: 06/18/2019 15:32 [VM19F18A] VM19F18A.LCSD: 06/18/2019 15:58 [VM19F18A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2-Dichloropropane	50.0	53.9	108	80-121		50.0	50.9	102		6	20	
cis-1,3-Dichloropropene	50.0	52.1	104	70-130		50.0	49.3	99		5	20	
trans-1,3-Dichloropropene	50.0	53.4	107	70-132		50.0	50.7	101		6	20	
Diethyl Ether	50.0	49.4	99	70-130		50.0	46.6	93		6	20	
Diisopropyl Ether	50.0	52.1	104	70-134		50.0	48.9	98		6	20	
ETBE	50.0	50.3	101	70-130		50.0	47.6	95		6	20	
Ethylbenzene	50.0	51.7	103	80-120		50.0	47.9	96		7	20	
Ethylene Dibromide	50.0	49.8	100	80-120		50.0	47.3	95		5	20	
Hexachloroethane	50.0	52.3	105	70-130		50.0	48.8	98		7	20	
2-Hexanone	50.0	51.1	102	70-130		50.0	48.6	97		5	20	
Isopropylbenzene	50.0	51.9	104	75-125		50.0	48.2	96		8	20	
4-Isopropyltoluene	50.0	52.3	105	70-135		50.0	48.3	97		8	20	
4-Methyl-2-pentanone	50.0	52.6	105	70-130		50.0	49.9	100		5	20	
Methylene Chloride	50.0	52.6	105	70-130		50.0	49.0	98		7	20	
2-Methylnaphthalene	50.0	52.1	104	70-130		50.0	50.1	100		4	20	
MTBE	50.0	48.7	97	70-125		50.0	46.8	94		3	20	
Naphthalene	50.0	50.4	101	70-130		50.0	47.7	95		6	20	
n-Propylbenzene	50.0	53.4	107	70-130		50.0	49.1	98		9	20	
Styrene	50.0	53.5	107	70-130		50.0	50.2	100		7	20	
TAME	50.0	51.0	102	70-130		50.0	48.7	97		5	20	
1,1,1,2-Tetrachloroethane	50.0	51.0	102	80-130		50.0	48.0	96		6	20	
1,1,2,2-Tetrachloroethane	50.0	50.7	101	70-130		50.0	48.5	97		4	20	
Tetrachloroethene	50.0	52.2	104	70-130		50.0	47.9	96		8	20	
Tetrahydrofuran	50.0	50.3	101	70-131		50.0	47.8	96		5	20	
Toluene	50.0	51.6	103	80-120		50.0	48.4	97		6	20	
1,2,3-Trichlorobenzene	50.0	49.2	98	70-130		50.0	46.5	93		5	20	
1,2,4-Trichlorobenzene	50.0	49.8	100	70-130		50.0	46.8	94		6	20	
1,1,1-Trichloroethane	50.0	51.4	103	70-130		50.0	47.0	94		9	20	
1,1,2-Trichloroethane	50.0	50.7	101	75-125		50.0	48.0	96		5	20	
Trichloroethene	50.0	51.7	103	71-125		50.0	48.4	97		6	20	
Trichlorofluoromethane	50.0	53.4	107	70-133		50.0	50.8	102		5	20	
1,2,3-Trichloropropane	50.0	50.3	101	75-125		50.0	46.7	93		8	20	
1,2,3-Trimethylbenzene	50.0	51.3	103	70-130		50.0	48.0	96		7	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F18A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F18A.LCS: 06/18/2019 15:32 [VM19F18A] VM19F18A.LCSD: 06/18/2019 15:58 [VM19F18A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2,4-Trimethylbenzene	50.0	51.0	102	75-130		50.0	47.4	95		7	20	
1,3,5-Trimethylbenzene	50.0	52.0	104	75-130		50.0	48.3	97		7	20	
Vinyl Chloride	50.0	55.1	110	74-125		50.0	49.9	100		10	20	
m&p-Xylene	100	104	104	75-130		100	96.3	96		8	20	
o-Xylene	50.0	51.3	103	80-120		50.0	47.9	96		7	20	
4-Bromofluorobenzene(S)			100	80-120				101				
Dibromofluoromethane(S)			95	80-120				96				
1,2-Dichloroethane-d4(S)			98	80-120				100				
Toluene-d8(S)			99	80-120				100				

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Method Blank (MB)

EPA 8260B

Run Time: VM19F19A.MB 06/19/2019 14:29 [VM19F19A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Acetone	U		20
Acrylonitrile	U		5.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform	U		1.0
Bromomethane	U		5.0
t-Butanol	U		50
2-Butanone	U		5.0
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		1.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
Cyclohexane	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		5.0
Dibromochloromethane	U		1.0
Dibromomethane	U		1.0
trans-1,4-Dichloro-2-butene (SIM)	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Method Blank (MB)

EPA 8260B

Run Time: VM19F19A.MB 06/19/2019 14:29 [VM19F19A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Diethyl Ether	U		5.0
Diisopropyl Ether	U		5.0
ETBE	U		5.0
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
Hexachloroethane	U		5.0
2-Hexanone	U		5.0
Isopropylbenzene	U		1.0
4-Isopropyltoluene	U		1.0
4-Methyl-2-pentanone	U		5.0
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		1.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
TAME	U		5.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Tetrahydrofuran	U		5.0
Toluene	U		1.0
1,2,3-Trichlorobenzene	U		5.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Method Blank (MB)

EPA 8260B

Run Time: VM19F19A.MB 06/19/2019 14:29 [VM19F19A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	102		80-120
Dibromofluoromethane(S)	97		80-120
1,2-Dichloroethane-d4(S)	102		80-120
Toluene-d8(S)	101		80-120

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F19A.LCS: 06/19/2019 13:11 [VM19F19A] VM19F19A.LCSD: 06/19/2019 13:37 [VM19F19A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Acetone	50.0	49.2	98	54-140		50.0	47.3	95		3	20	
Acrylonitrile	50.0	52.8	106	70-130		50.0	50.8	102		4	20	
Benzene	50.0	50.9	102	80-120		50.0	47.6	95		7	20	
Bromobenzene	50.0	57.3	115	75-125		50.0	51.8	104		10	20	
Bromochloromethane	50.0	53.3	107	70-130		50.0	50.8	102		5	20	
Bromodichloromethane	50.0	50.9	102	75-120		50.0	49.2	98		4	20	
Bromoform	50.0	49.5	99	70-130		50.0	47.7	95		4	20	
Bromomethane	50.0	54.5	109	68-135		50.0	50.4	101		8	20	
t-Butanol	250	270	108	70-147		250	266	106		2	20	
2-Butanone	50.0	55.0	110	70-148		50.0	52.9	106		4	20	
n-Butylbenzene	50.0	54.0	108	70-133		50.0	50.1	100		8	20	
sec-Butylbenzene	50.0	50.5	101	70-125		50.0	47.2	94		7	20	
tert-Butylbenzene	50.0	50.9	102	70-130		50.0	47.5	95		7	20	
Carbon Disulfide	50.0	52.6	105	70-130		50.0	46.8	94		11	20	
Carbon Tetrachloride	50.0	52.1	104	70-130		50.0	48.1	96		8	20	
Chlorobenzene	50.0	49.9	100	80-120		50.0	46.8	94		6	20	
Chloroethane	50.0	55.2	110	61-130		50.0	50.3	101		9	20	
Chloroform	50.0	49.3	99	80-120		50.0	47.1	94		5	20	
Chloromethane	50.0	50.8	102	67-125		50.0	47.0	94		8	20	
Cyclohexane	50.0	55.9	112	70-130		50.0	51.3	103		8	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	49.5	99	70-130		50.0	48.3	97		2	20	
Dibromochloromethane	50.0	48.5	97	70-130		50.0	46.7	93		4	20	
Dibromomethane	50.0	48.6	97	75-125		50.0	47.0	94		3	20	
trans-1,4-Dichloro-2-butene (SIM)	50.0	62.9	126	70-135		50.0	61.0	122		3	20	
1,2-Dichlorobenzene	50.0	50.8	102	70-120		50.0	48.6	97		5	20	
1,3-Dichlorobenzene	50.0	50.3	101	75-125		50.0	47.7	95		6	20	
1,4-Dichlorobenzene	50.0	50.5	101	75-125		50.0	48.0	96		5	20	
Dichlorodifluoromethane	50.0	58.3	117	70-136		50.0	53.1	106		10	20	
1,1-Dichloroethane	50.0	51.8	104	70-130		50.0	48.5	97		7	20	
1,2-Dichloroethane	50.0	51.3	103	70-130		50.0	49.9	100		3	20	
1,1-Dichloroethene	50.0	54.9	110	78-120		50.0	49.9	100		10	20	
cis-1,2-Dichloroethene	50.0	51.6	103	70-125		50.0	48.8	98		5	20	
trans-1,2-Dichloroethene	50.0	53.7	107	70-130		50.0	49.9	100		7	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F19A.LCS: 06/19/2019 13:11 [VM19F19A] VM19F19A.LCSD: 06/19/2019 13:37 [VM19F19A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2-Dichloropropane	50.0	55.0	110	80-121		50.0	52.6	105		5	20	
cis-1,3-Dichloropropene	50.0	52.2	104	70-130		50.0	50.1	100		4	20	
trans-1,3-Dichloropropene	50.0	54.2	108	70-132		50.0	52.0	104		4	20	
Diethyl Ether	50.0	50.7	101	70-130		50.0	49.0	98		3	20	
Diisopropyl Ether	50.0	54.8	110	70-134		50.0	52.4	105		5	20	
ETBE	50.0	52.5	105	70-130		50.0	50.0	100		5	20	
Ethylbenzene	50.0	51.4	103	80-120		50.0	47.8	96		7	20	
Ethylene Dibromide	50.0	49.0	98	80-120		50.0	46.9	94		4	20	
Hexachloroethane	50.0	51.7	103	70-130		50.0	48.4	97		6	20	
2-Hexanone	50.0	51.4	103	70-130		50.0	49.9	100		3	20	
Isopropylbenzene	50.0	51.7	103	75-125		50.0	47.9	96		7	20	
4-Isopropyltoluene	50.0	51.6	103	70-135		50.0	48.3	97		6	20	
4-Methyl-2-pentanone	50.0	53.2	106	70-130		50.0	51.6	103		3	20	
Methylene Chloride	50.0	55.9	112	70-130		50.0	52.1	104		7	20	
2-Methylnaphthalene	50.0	55.9	112	70-130		50.0	53.2	106		6	20	
MTBE	50.0	50.6	101	70-125		50.0	48.2	96		5	20	
Naphthalene	50.0	50.8	102	70-130		50.0	49.5	99		3	20	
n-Propylbenzene	50.0	52.6	105	70-130		50.0	49.1	98		7	20	
Styrene	50.0	53.5	107	70-130		50.0	50.3	101		6	20	
TAME	50.0	52.0	104	70-130		50.0	50.3	101		3	20	
1,1,1,2-Tetrachloroethane	50.0	50.1	100	80-130		50.0	47.3	95		5	20	
1,1,2,2-Tetrachloroethane	50.0	50.3	101	70-130		50.0	49.2	98		3	20	
Tetrachloroethene	50.0	50.2	100	70-130		50.0	46.5	93		7	20	
Tetrahydrofuran	50.0	52.8	106	70-131		50.0	51.8	104		2	20	
Toluene	50.0	51.9	104	80-120		50.0	48.6	97		7	20	
1,2,3-Trichlorobenzene	50.0	50.2	100	70-130		50.0	48.2	96		4	20	
1,2,4-Trichlorobenzene	50.0	50.6	101	70-130		50.0	48.2	96		5	20	
1,1,1-Trichloroethane	50.0	51.7	103	70-130		50.0	47.2	94		9	20	
1,1,2-Trichloroethane	50.0	50.0	100	75-125		50.0	48.4	97		3	20	
Trichloroethene	50.0	51.2	102	71-125		50.0	47.8	96		6	20	
Trichlorofluoromethane	50.0	55.7	111	70-133		50.0	50.9	102		8	20	
1,2,3-Trichloropropane	50.0	49.0	98	75-125		50.0	48.0	96		2	20	
1,2,3-Trimethylbenzene	50.0	51.2	102	70-130		50.0	48.4	97		5	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F19A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F19A.LCS: 06/19/2019 13:11 [VM19F19A] VM19F19A.LCSD: 06/19/2019 13:37 [VM19F19A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2,4-Trimethylbenzene	50.0	50.5	101	75-130		50.0	47.6	95		6	20	
1,3,5-Trimethylbenzene	50.0	51.2	102	75-130		50.0	48.2	96		6	20	
Vinyl Chloride	50.0	55.1	110	74-125		50.0	49.8	100		10	20	
m&p-Xylene	100	103	103	75-130		100	96.5	96		7	20	
o-Xylene	50.0	51.4	103	80-120		50.0	48.1	96		7	20	
4-Bromofluorobenzene(S)			101	80-120				101				
Dibromofluoromethane(S)			96	80-120				97				
1,2-Dichloroethane-d4(S)			100	80-120				101				
Toluene-d8(S)			100	80-120				101				

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F20A: Method Blank (MB)

EPA 8260B

Run Time: VM19F20A.MB 06/20/2019 12:11 [VM19F20A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Acetone	U		20
Acrylonitrile	U		5.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform	U		1.0
Bromomethane	U		5.0
t-Butanol	U		50
2-Butanone	U		5.0
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		1.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
Cyclohexane	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		5.0
Dibromochloromethane	U		1.0
Dibromomethane	U		1.0
trans-1,4-Dichloro-2-butene (SIM)	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F20A: Method Blank (MB)

EPA 8260B

Run Time: VM19F20A.MB 06/20/2019 12:11 [VM19F20A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Diethyl Ether	U		5.0
Diisopropyl Ether	U		5.0
ETBE	U		5.0
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
Hexachloroethane	U		5.0
2-Hexanone	U		5.0
Isopropylbenzene	U		1.0
4-Isopropyltoluene	U		1.0
4-Methyl-2-pentanone	U		5.0
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		1.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
TAME	U		5.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Tetrahydrofuran	U		5.0
Toluene	U		1.0
1,2,3-Trichlorobenzene	U		5.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F20A: Method Blank (MB)

EPA 8260B

Run Time: VM19F20A.MB 06/20/2019 12:11 [VM19F20A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	103		80-120
Dibromofluoromethane(S)	98		80-120
1,2-Dichloroethane-d4(S)	104		80-120
Toluene-d8(S)	100		80-120

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F20A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8260B

Run Time: VM19F20A.LCS: 06/20/2019 10:51 [VM19F20A] VM19F20A.LCSD: 06/20/2019 11:18 [VM19F20A]

	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
Analyte	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%		
Acetone	50.0	56.7	113	54-140		50.0	50.0	100		12	20	
Acrylonitrile	50.0	58.5	117	70-130		50.0	55.2	110		6	20	
Benzene	50.0	53.3	107	80-120		50.0	49.8	100		7	20	
Bromobenzene	50.0	59.6	119	75-125		50.0	59.6	119		0	20	
Bromochloromethane	50.0	57.7	115	70-130		50.0	55.0	110		4	20	
Bromodichloromethane	50.0	53.5	107	75-120		50.0	50.8	102		5	20	
Bromoform	50.0	51.4	103	70-130		50.0	48.7	97		6	20	
Bromomethane	50.0	58.5	117	68-135		50.0	54.6	109		7	20	
t-Butanol	250	302	121	70-147		250	278	111		9	20	
2-Butanone	50.0	65.1	130	70-148		50.0	59.6	119		9	20	
n-Butylbenzene	50.0	56.0	112	70-133		50.0	51.8	104		7	20	
sec-Butylbenzene	50.0	52.2	104	70-125		50.0	48.2	96		8	20	
tert-Butylbenzene	50.0	52.2	104	70-130		50.0	48.5	97		7	20	
Carbon Disulfide	50.0	54.3	109	70-130		50.0	51.7	103		6	20	
Carbon Tetrachloride	50.0	55.1	110	70-130		50.0	50.1	100		10	20	
Chlorobenzene	50.0	51.3	103	80-120		50.0	48.1	96		7	20	
Chloroethane	50.0	60.1	120	61-130		50.0	55.6	111		8	20	
Chloroform	50.0	52.4	105	80-120		50.0	48.8	98		7	20	
Chloromethane	50.0	56.3	113	67-125		50.0	50.7	101		11	20	
Cyclohexane	50.0	61.2	122	70-130		50.0	56.2	112		9	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	52.4	105	70-130		50.0	48.9	98		7	20	
Dibromochloromethane	50.0	50.2	100	70-130		50.0	47.8	96		4	20	
Dibromomethane	50.0	49.8	100	75-125		50.0	47.4	95		5	20	
trans-1,4-Dichloro-2-butene (SIM)	50.0	67.8	136	70-135	*	50.0	64.5	129		5	20	
1,2-Dichlorobenzene	50.0	51.9	104	70-120		50.0	48.9	98		6	20	
1,3-Dichlorobenzene	50.0	51.6	103	75-125		50.0	48.6	97		6	20	
1,4-Dichlorobenzene	50.0	51.9	104	75-125		50.0	48.9	98		6	20	
Dichlorodifluoromethane	50.0	63.7	127	70-136		50.0	56.7	113		12	20	
1,1-Dichloroethane	50.0	55.4	111	70-130		50.0	51.8	104		7	20	
1,2-Dichloroethane	50.0	54.1	108	70-130		50.0	52.4	105		3	20	
1,1-Dichloroethene	50.0	57.6	115	78-120		50.0	54.6	109		5	20	
cis-1,2-Dichloroethene	50.0	55.3	111	70-125		50.0	51.7	103		7	20	
trans-1,2-Dichloroethene	50.0	57.4	115	70-130		50.0	53.4	107		7	20	

 1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

 Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

 T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

 F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584

VM19F20A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F20A.LCS: 06/20/2019 10:51 [VM19F20A] VM19F20A.LCSD: 06/20/2019 11:18 [VM19F20A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2-Dichloropropane	50.0	58.1	116	80-121		50.0	55.1	110		5	20	
cis-1,3-Dichloropropene	50.0	55.1	110	70-130		50.0	52.2	104		6	20	
trans-1,3-Dichloropropene	50.0	57.3	115	70-132		50.0	53.7	107		7	20	
Diethyl Ether	50.0	55.0	110	70-130		50.0	52.6	105		5	20	
Diisopropyl Ether	50.0	59.7	119	70-134		50.0	56.7	113		5	20	
ETBE	50.0	55.4	111	70-130		50.0	53.1	106		5	20	
Ethylbenzene	50.0	53.2	106	80-120		50.0	49.7	99		7	20	
Ethylene Dibromide	50.0	51.0	102	80-120		50.0	48.9	98		4	20	
Hexachloroethane	50.0	52.9	106	70-130		50.0	48.8	98		8	20	
2-Hexanone	50.0	58.1	116	70-130		50.0	53.5	107		8	20	
Isopropylbenzene	50.0	53.1	106	75-125		50.0	49.2	98		8	20	
4-Isopropyltoluene	50.0	53.2	106	70-135		50.0	49.2	98		8	20	
4-Methyl-2-pentanone	50.0	57.6	115	70-130		50.0	54.3	109		5	20	
Methylene Chloride	50.0	59.0	118	70-130		50.0	56.8	114		3	20	
2-Methylnaphthalene	50.0	58.3	117	70-130		50.0	53.6	107		9	20	
MTBE	50.0	53.8	108	70-125		50.0	51.0	102		6	20	
Naphthalene	50.0	53.5	107	70-130		50.0	50.0	100		7	20	
n-Propylbenzene	50.0	54.5	109	70-130		50.0	50.9	102		7	20	
Styrene	50.0	55.1	110	70-130		50.0	51.6	103		7	20	
TAME	50.0	54.3	109	70-130		50.0	51.7	103		6	20	
1,1,1,2-Tetrachloroethane	50.0	51.5	103	80-130		50.0	48.5	97		6	20	
1,1,2,2-Tetrachloroethane	50.0	53.8	108	70-130		50.0	51.1	102		6	20	
Tetrachloroethene	50.0	51.2	102	70-130		50.0	47.6	95		7	20	
Tetrahydrofuran	50.0	61.5	123	70-131		50.0	57.3	115		7	20	
Toluene	50.0	53.8	108	80-120		50.0	50.1	100		8	20	
1,2,3-Trichlorobenzene	50.0	51.5	103	70-130		50.0	48.0	96		7	20	
1,2,4-Trichlorobenzene	50.0	51.5	103	70-130		50.0	48.4	97		6	20	
1,1,1-Trichloroethane	50.0	53.9	108	70-130		50.0	49.8	100		8	20	
1,1,2-Trichloroethane	50.0	51.7	103	75-125		50.0	50.2	100		3	20	
Trichloroethene	50.0	52.6	105	71-125		50.0	48.7	97		8	20	
Trichlorofluoromethane	50.0	59.4	119	70-133		50.0	53.2	106		12	20	
1,2,3-Trichloropropane	50.0	52.3	105	75-125		50.0	48.6	97		8	20	
1,2,3-Trimethylbenzene	50.0	52.8	106	70-130		50.0	49.4	99		7	20	

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

VM19F20A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260B

Run Time: VM19F20A.LCS: 06/20/2019 10:51 [VM19F20A] VM19F20A.LCSD: 06/20/2019 11:18 [VM19F20A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
1,2,4-Trimethylbenzene	50.0	52.1	104	75-130		50.0	48.6	97		7	20	
1,3,5-Trimethylbenzene	50.0	53.0	106	75-130		50.0	49.5	99		7	20	
Vinyl Chloride	50.0	60.4	121	74-125		50.0	54.6	109		10	20	
m&p-Xylene	100	107	107	75-130		100	99.5	100		7	20	
o-Xylene	50.0	52.9	106	80-120		50.0	49.4	99		7	20	
4-Bromofluorobenzene(S)			102	80-120				101				
Dibromofluoromethane(S)			98	80-120				97				
1,2-Dichloroethane-d4(S)			104	80-120				103				
Toluene-d8(S)			100	80-120				100				

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Definitions/ Qualifiers:

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

Exception Summary:

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

Report Generated By:



By Anthony Donnelly at 4:04 PM, Jul 09, 2019

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fiberteclhs.com

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody #

PAGE 1 of 2

Client Name: Bureau Veritas NA, Inc.				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOCs	SVOCs	GRO	DRO & ORO	HOLD SAMPLE	PARAMETERS				Matrix Code				Deliverables
Contact Person: Kellie Wing											S	Soil	GW	Ground Water	☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD				
Project Name/ Number: PSC/11019-000076.00.001											A	Air	SW	Surface Water					
Email distribution list: kellie.wing@bureauveritas.com											O	Oil	WW	Waste Water					
Quote#											P	Wipe	X	Other: Specify					
Purchase Order#											Remarks:								
Date	Time	Sample #	Client Sample Descriptor																
6/13/19	1110		MW-1	GW	5	✓	✓	✓											
6/13/19	1011		MW-2	GW	7	✓	✓	✓	✓										
6/13/19	1130		MW-3	GW	7	✓	✓	✓	✓										
6/13/19	955		MW-4	GW	7	✓	✓	✓	✓										
6/13/19	1012		MW-5	GW	7	✓	✓	✓	✓										
6/13/19	1023		MW-6	GW	7	✓	✓	✓	✓										
6/13/19	1055		MW-7	GW	6	✓	✓	✓											
6/13/19	920		MW-8	GW	7	✓	✓	✓	✓										
6/13/19	749		MW-9	GW	7	✓	✓	✓	✓										
6/13/19	842		MW-10	GW	6	✓	✓	✓											
Comments: Use special VOC test called VOCBV1 - See previous report for LODs and analyte list (87889)																			
Sampled/Relinquished By: <i>[Signature]</i>				Date/ Time: 6/14/19				Received By: <i>[Signature]</i> 6/14/19 12:10											
Relinquished By: <i>[Signature]</i>				Date/ Time: 6/14/19 4:22				Received By: <i>[Signature]</i>											
Relinquished By: <i>[Signature]</i>				Date/ Time:				Received By Laboratory:											
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY												LAB USE ONLY							
_____ 1 bus. day _____ 2 bus. days _____ 3 bus. days _____ 4 bus. days												Fibertec project number: 91080							
X _____ 5-7 bus. days (standard) Other (specify time/date requirement): _____												Temperature upon receipt at Lab: 1.7°C							
Please see back for terms and conditions																			

Client Name: Bureau Veritas NA, Inc.				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOCs	SVOCs	GRO	DRO & ORO	PARAMETERS										Matrix Code		Deliverables	
Contact Person: Kellie Wing										HOLD SAMPLE	S	Soil	GW	Ground Water		Level 2							
Project Name/ Number: PSC/11019-000076.00.001											A	Air	SW	Surface Water		Level 3							
Email distribution list: kellie.wing@bureauveritas.com											O	Oil	WW	Waste Water		Level 4							
Quote#											P	Wipe	X	Other: Specify		EDD							
Purchase Order#																							
Date	Time	Sample #	Client Sample Descriptor																				
6/13/19	1104		MW-11	GW	7	✓	✓	✓	✓														
6/13/19	900		MW-12	GW	7	✓	✓	✓	✓														
6/13/19			Duplicate	GW	7	✓	✓	✓	✓														
6/13/19	1600		Rinsate Blank	GW	7	✓	✓	✓	✓														
6/13/19			Trip Blank	GW	3	✓																	
Comments: Use special VOC test called VOCBV1 - See previous report for LODs and analyte list (87889)																							
Sampled/Relinquished By: <i>Kellie Wing</i>				Date/ Time: 6/14/19				Received By: <i>Debra J. Shad</i> 6/14/19 12:10															
Relinquished By: <i>Debra J. Shad</i>				Date/ Time: 6/14/19 4:22				Received By: <i>Debra J. Shad</i>															
Relinquished By:				Date/ Time:				Received By Laboratory:															
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY												LAB USE ONLY											
_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days												Fiberlec project number: 91080											
X _____5-7 bus. days (standard) Other (specify time/date requirement): _____												Temperature upon receipt at Lab: 1.7°C											
Please see back for terms and conditions																							



APPENDIX C

HISTORICAL SUMMARY TABLE OF ANALYTICAL RESULTS

Table 2a - Historical Summary of Groundwater Analytical Results

MW-1

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	6/10/09	12/9/09	6/30/10	12/29/10	6/22/11	12/21/11	3/9/12	6/7/12	8/10/12	11/812	1/30/12	5/31/13	11/27/13	6/20/14	11/20/14
Acetone	20	<5.5 U	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	--	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	61	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1
Dibromomethane	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	<1	<1	<1	<1	<1	<1	<1	1.8	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	20	37	12	19	9.4	13.9	17.9	28.7	27.5	32	12.5	26	29	4.7	27
Naphthalene	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	<200	210	<200	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	470	750	390	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2a - Historical Summary of Groundwater Analytical Results

MW-1

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ									
	TDL 5/20/03	6/30/15	12/16/15	6/17/16	12/22/16	6/22/17	12/28/17	5/30/18	11/20/18	6/13/19
Acetone	20	<20	<20	24	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<5.0
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Buytlbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	15	20	25	20	5.5	2.7	14	13	13
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	<200	<200	<200	--	--	--	--	--
Oil Range Organics (ORO)	200	--	400	450	330	--	--	--	--	--
Gasoline Range Organics (GRO)	200	<200	<199	<200	--	<200	--	<200	<200	<200

--

Not sampled

Result exceeds MDEQ TDL

NA

Parameter added per MDEQ 4/27/2009 letter

<

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2b - Historical Summary of Groundwater Analytical Results

MW-2

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2b - Historical Summary of Groundwater Analytical Results

MW-2

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/29/06	12/15/06	2/2/07	5/24/07	6/26/07	10/26/07	4/17/08	5/8/08	7/31/08	10/22/08	6/9/09	12/9/09	6/30/10
Acetone	20	<20	<20	<20	<20	<20	50J	16J	8.7J	32	24	15J	21J	<11 U	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<2	<2
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	11	13	14	10	12	9.1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	58	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	6.1	5.9	<6.9 UJ	2.9J	4.0J	1.5J	5.0J	2.5J	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	9.5	14	8.5	9.8	8.2	5.2
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	NR	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	2.5	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	<1.0
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.80J	0.81J	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	2.4J	1.2J	<5	<10	8.5J	<10	<10	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	6.3	2.5
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	180	<5.0
Toluene	1	<1	<1	<1	1	<1	<1	<1	<1	0.55J	1.4	0.89J	0.93J	<1 U	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	<1.0
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1
Vinyl chloride	1	<1	<1	9	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<3	1.2J	1.6J	2.3J	1.2	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2b - Historical Summary of Groundwater Analytical Results

MW-2

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	12/29/10	6/21/11	12/20/11	6/6/12	8/10/12	11/7/12	5/31/13	11/26/13	6/19/14	11/19/14	6/29/15	12/15/15	6/16/16	12/22/16	6/21/17
Acetone	20	<20	1,300	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzene	1	15	15.3	9	10.1	12.3	12	4.4	5.6	9.7	9.2	13	10	14	11	12
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50	<50	<50	5,500 J,E	10,000	570	200	87	67	<100
2-Butanone (MEK)	5	<5	50.5	<5	<5	<5	<5	<5	<5	<5.3	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	7.2	6.91	<5	<5	32.8	13	<5	6.2	8.6	<5	15	9.9	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	1.02	<1	<1	<1	<1	1.3	<1	1.0	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.7
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	4.8	2.2	2.07	2.6	<1	2.4	<1	1.1	<2.4	<1	2.7	2.6	2.7	2.1	<2.5
4-Isopropyltoluene	1	<1	<1	<1	<1	2.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	31.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	3.7	1.43	1.15	1.42	<1.5	<1.5	<2.1	1.5	1.3	<1.4	2.3	<1.1	1.8	1.5	<2.5
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	110	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	200	<5.0	131	193	172.5	240	160	94	110	220	320	160	200	300	260
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.5	<2	<2
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	2.3	1.27	1.01	1.31	1.9	1.6	<1	<1	1.4	1.2	1.9	1.6	1.9	<2	<2
1,2,4-Trimethylbenzene	1	<1	2.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	1.17	<3	<3	<3	<3	<3	<3	<3	<3	<3	1.5	1.9	<4	<4
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	1,500	790	1,400	1,200	1,900	1,400	910	720	1,300
Oil Range Organics (ORO)	200	--	--	--	--	--	--	1,900	1,200	1,500	1,200	1,200	990	1,000	790	1,200
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	<200	<200	<200	<200	<200	<199	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2b - Historical Summary of Groundwater Analytical Results

MW-2

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ				
	TDL 5/20/03	12/27/17	5/29/18	11/20/18	6/13/19
Acetone	20	<25	40	<20	<20
Acrylonitrile	5	<2	<2	<2	<5.0
Benzene	1	7.7	9.7	6.7	8.4
Bromobenzene	1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50
2-Butanone (MEK)	5	<10	20	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1
1,2-Dichloroethane	1	<5	<5	<5	<5
1,1-Dichloroethene	1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5
Isopropylbenzene	1	<2.5	1.9	<2.5	1.4
4-Isopropyltoluene	1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	31	<5	<5
Methyl tert-butyl ether (MTBE)	1	<5.0	1.9	1.2	1.6
Naphthalene	5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1
Tetrahydrofuran	5	200	200	130	170
Toluene	1	<5	<5	<5	<5
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<2	1.4	<2	<1
1,2,4-Trimethylbenzene	1	<5	<5	<5	<5
1,3,5-Trimethylbenzene	1	<5	<5	<5	<5
Vinyl chloride	1	<5	<5	<5	<5
Xylenes	3	<7.5	<3	<3	<3
Diesel Range Organics (DRO)	200	<200	1,300	660	800
Oil Range Organics (ORO)	200	<200	1,200	590	510
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2c - Historical Summary of Groundwater Analytical Results

MW-3

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/24/03	4/5/04	10/22/04	4/21/05	10/27/05	5/21/06	11/29/06	12/15/06	2/2/07	5/24/07	10/26/07	4/17/08	5/8/08	8/1/08	10/23/08
Acetone	20	--	--	--	<20	<20	<20	<20	<20	<20	5.8J	--	--	2.8J	--	--
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Bromoform	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Bromomethane (Methyl bromide)	5	--	--	--	<5	<5	<5	<5	<5	<5	<5	--	--	<5	--	--
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	--	--	--	<5	<5	<5	<5	<5	<5	<5	--	--	2.2J	--	--
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Chlorobenzene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Chloroethane	5	--	--	--	<5	<5	<5	<5	<5	<5	<5	--	--	<5	--	--
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,2-Dichloroethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,1-Dichloroethene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
cis-1,2-Dichloroethene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	--	--	--	<5	<5	<5	14	<5	<5	0.97J	--	--	<5	--	--
4-Methyl-2-pentanone (MIBK)	5	--	--	--	<5	<5	<5	<5	<5	<5	<5	--	--	<5	--	--
Methyl tert-butyl ether (MTBE)	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	--	--	NA	--	--
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	--	--	--	<1	<1	<1	<1	1	<1	<1	--	--	<1	--	--
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,1,2-Trichloroethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Trichloroethene	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Trichlorofluoromethane	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1	--	--
Xylenes	3	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<3	--	--
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2c - Historical Summary of Groundwater Analytical Results

MW-3

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	6/10/09	12/9/09	6/29/10	12/29/10	6/21/11	12/20/11	6/7/12	11/7/12	5/31/13	11/26/13	6/19/14	11/19/14	6/29/15	12/16/15	6/16/16
Acetone	20	--	--	--	<20	<20	<20	<20	--	--	<20	<20	--	<20	<20	<20
Acrylonitrile	5	--	--	--	<2	<2	<2	<2	--	--	<2	<2	--	<2	<2	<2
Benzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Bromobenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Bromochloromethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Bromodichloromethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Bromoform	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Bromomethane (Methyl bromide)	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	<50	<50	<50	<50	--	--	<50	<50	--	<50	<50	<50
2-Butanone (MEK)	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
n-Butylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
sec-Butylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
tert-Butylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Carbon disulfide	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Carbon tetrachloride	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Chlorobenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Chloroethane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Chloroform	1	--	--	--	4.2	2.19	<1	<1	--	--	<1	1.3	--	3.6	<1	2.1
Chloromethane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Cyclohexane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Dibromochloromethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Dibromomethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
1,1-Dichloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2-Dichloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,1-Dichloroethene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
cis-1,2-Dichloroethene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
trans-1,2-Dichloroethene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Diethyl ether	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Diisopropyl ether	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Ethylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Hexachloroethane	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
2-Hexanone	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Isopropylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Methylene chloride (Dichloromethane)	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	--	--	--	1.6	<1	<1	9.72	--	--	7.9	5.4	--	7.3	7.5	5.7
Naphthalene	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
n-Propylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Styrene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Tetrachloroethene	1	--	--	--	<1	1.18	<1	<1	--	--	<1	1.2	--	<1	<1	<1
Tetrahydrofuran	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
Toluene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	<5	<5	<5	<5	--	--	<5	<5	--	<5	<5	<5
1,1,1-Trichloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,1,2-Trichloroethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Trichloroethene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Trichlorofluoromethane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Vinyl chloride	1	--	--	--	<1	<1	<1	<1	--	--	<1	<1	--	<1	<1	<1
Xylenes	3	--	--	--	<3	<3	<3	<3	--	--	<3	<3	--	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	<200	<200	--	<200	220	<200
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	920	510	--	<200	460	630
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	<200	<200	--	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2c - Historical Summary of Groundwater Analytical Results

MW-3

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ						
	TDL 5/20/03	12/22/16	6/21/17	12/28/17	5/29/18	11/20/18	6/13/19
Acetone	20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<5
Benzene	1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5
Chloroform	1	2.7	1.6	2.6	4.4	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<5
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<0.5
Diethyl ether	5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	5.5	6.2	3.3	3.5	5.3	4.1
Naphthalene	5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	<200	<200	<200	<200	200	280
Oil Range Organics (ORO)	200	490	520	<200	800	580	630
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200	<200	<200

- Not sampled
- Result exceeds MDEQ TDL
- NA Parameter added per MDEQ 4/27/2009 letter
- < Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2d - Historical Summary of Groundwater Analytical Results

MW-4

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	370	<25	<25	66	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2d - Historical Summary of Groundwater Analytical Results

MW-4

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/29/06	12/15/06	2/2/07	5/24/07	10/26/07	4/17/08	5/8/08	8/1/08	10/23/08	6/10/09	12/9/09	6/30/10	12/29/10
Acetone	20	<20	53	<20	<40	119	11J	<24 UJ	30	--	89	18J	<26 U	24	<20	30
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	<2	<2	<2
Benzene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<10	<17.5	<5	<5	<5	--	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	1,200	990	1,000
2-Butanone (MEK)	5	<5	<5	<5	<10	<17.5	2.7J	4.7J	5.9	--	11	<5	7.8	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<2	<3	<1	<1	<1		<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<10	<17.5	<5	<5	5.7	--	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<2	<3	<1	<1	0.65J	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	8.9	6.7	12.0
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<10	<17.5	<5	<5	<5	--	1.7J	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<10	<17.5	<5	<5	<10	--	1.8J	<10	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	150	140	170	140
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	9.1	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	17	<5	18
Toluene	1	<1	<1	<1	<2	<3	<1	<1	0.94J	--	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Vinyl chloride	1	<1	<1	4	<2	<3	<1	<1	<1	--	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<2	<3	<1	<1	<3	--	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2d - Historical Summary of Groundwater Analytical Results

MW-4

Groundwater Monitoring Report

Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	6/22/11	12/21/11	6/7/12	11/8/12	5/31/13	11/26/13	6/20/14	11/20/14	6/30/15	12/16/15	6/17/16	12/22/16	6/22/17	12/27/17	5/29/18
Acetone	20	24.5	<20	<20	<20	<20	<20	<21	<21	23	<100	27	31	<50	33	21
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	962	909	990	1,100	1,200	1,200	720 J,E	860	1,200	760	940	900	850	860	880
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<20
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2.5	<5
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	6.55	9.74	<5	11	9.2	8.2	7.0	7.7	6.4	5.4	5.7	6.7	5.4	6.2	6.3
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6.5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	102	120	103	140	130	110	89	110	92	75	87	89	82	88	85
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	11.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	9.51	<5	11	12	7.6	9.9	8.7	<20	7.4	<25	<25	<25	<20
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<7.5	<15
Diesel Range Organics (DRO)	200	--	--	--	--	1,700	1,700	2,300	1,400	--	2,600	2,500	1,900	2,000	1,500	2,100
Oil Range Organics (ORO)	200	--	--	--	--	570	570	640	210	--	470	1,300	890	910	340	930
Gasoline Range Organics (GRO)	200	--	--	--	--	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200

--	Not sampled
	Result exceeds MDEQ TDL
NA	Parameter added per MDEQ 4/27/2009 letter
<	Not detected at the detection limit

Notes:

1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2d - Historical Summary of Groundwater Analytical Results

MW-4

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ		
	TDL 5/20/03	11/20/18	6/13/19
Acetone	20	<20	<20
Acrylonitrile	5	<5	<5
Benzene	1	<1	<1
Bromobenzene	1	<1	<1
Bromochloromethane	1	<1	<1
Bromodichloromethane	1	<1	<1
Bromoform	1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5
tert-Butyl alcohol	50	740	760
2-Butanone (MEK)	5	<20	<20
n-Butylbenzene	1	<1	<2.5
sec-Butylbenzene	1	<1	<2.5
tert-Butylbenzene	1	<1	<5
Carbon disulfide	1	<1	<5
Carbon tetrachloride	1	<1	<5
Chlorobenzene	1	<1	<5
Chloroethane	5	<5	<5
Chloroform	1	<1	<5
Chloromethane	5	<5	<5
Cyclohexane	5	<5	<5
Dibromochloromethane	1	<1	<5
1,2-Dibromo-3-chloropropane	5	<5	<5
Dibromomethane	1	<1	<5
1,2-Dichlorobenzene	1	<1	<5
1,3-Dichlorobenzene	1	<1	<2.5
1,4-Dichlorobenzene	1	<1	<5
Dichlorodifluoromethane	5	<5	<10
1,1-Dichloroethane	1	<1	<2.5
1,2-Dichloroethane	1	<1	<2.5
1,1-Dichloroethene	1	<1	<2.5
cis-1,2-Dichloroethene	1	<5	<2.5
trans-1,4-Dichloro-2-butene	5	<1	<2.5
trans-1,2-Dichloroethene	1	<1	<2.5
1,2-Dichloropropane	1	<1	<2.5
cis-1,3-Dichloropropene	1	<1	<2.5
trans-1,3-Dichloropropene	1	<1	<2.5
Diethyl ether	5	<5	<5
Diisopropyl ether	5	5.4	5.4
Ethyl tert-Butyl ether	5	<5	<5
Ethylbenzene	1	<1	<5
1,2-Dibromomethane (EDB)	1	<1	<5
Hexachloroethane	5	<5	<10
2-Hexanone	5	<5	<10
Isopropylbenzene	1	<1	<2.5
4-Isopropyltoluene	1	<1	<5
Methylene chloride (Dichloromethane)	5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<10
Methyl tert-butyl ether (MTBE)	1	75	77
Naphthalene	5	<5	<5
n-Propylbenzene	1	<1	<2.5
Styrene	1	<1	<5
tert-Amylmethyl ether	5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<5
1,1,2,2-Tetrachloroethane	1	<1	<5
Tetrachloroethene	1	<1	<2.5
Tetrahydrofuran	5	<20	<10
Toluene	1	<1	<5
1,2,3-Trichlorobenzene	5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5
1,1,1-Trichloroethane	1	<1	<5
1,1,2-Trichloroethane	1	<1	<5
Trichloroethene	1	<1	<2.5
Trichlorofluoromethane	1	<1	<2.5
1,2,3-Trichloropropane	1	<1	<5
1,2,3-Trimethylbenzene	1	<1	<2.5
1,2,4-Trimethylbenzene	1	<1	<2.5
1,3,5-Trimethylbenzene	1	<1	<2.5
Vinyl chloride	1	<1	<5
Xylenes	3	<15	<7.5
Diesel Range Organics (DRO)	200	2,800	3,100
Oil Range Organics (ORO)	200	1,400	780
Gasoline Range Organics (GRO)	200	<200	<200

- Not sampled
- Result exceeds MDEQ TDL
- NA Parameter added per MDEQ 4/27/2009 letter
- < Not detected at the detection limit

- Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2e - Historical Summary of Groundwater Analytical Results

MW-5

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2e - Historical Summary of Groundwater Analytical Results

MW-5

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	5/24/07	10/26/07	4/17/08	5/8/08	8/1/08	10/22/08	6/9/09	12/9/09	6/30/10	12/29/10	6/22/11	12/21/11
Acetone	20	<20	<20	<20	4.5J	<20 J	--	3.6J	4.8J	3.2J	<7.8 U	<20	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	58	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	2.5J	2.0J	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	6.7	<5.0	6.9	5.77	10.4
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	1.6J	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	10	8.5	8.3	7.73	13
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2e - Historical Summary of Groundwater Analytical Results

MW-5

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	3/9/12	6/7/12	11/8/12	1/30/12	5/31/13	11/26/13	6/20/14	11/20/14	6/30/15	12/16/15	6/17/16	12/22/16	6/21/17	12/27/17	5/29/18
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	<5	6.80	11	6.5	6.4	8	<5	7.3	6.4	5.3	5.9	6.9	<5.0	6.4	7.7
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	15.2	10.0	11	6.6	7.7	8.1	6.3	7.4	8.2	6.9	7	8.5	6.7	8.0	8.4
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	<200	<200	<200	270	<200	220	<200	<200	<200	<200	<200
Oil Range Organics (ORO)	200	--	--	--	--	870	250	310	<200	<200	200	210	340	<200	280	330
Gasoline Range Organics (GRO)	200	--	--	--	--	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2e - Historical Summary of Groundwater Analytical Results

MW-5

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ TDL 5/20/03	11/20/18	6/13/19
Acetone	20	<20	<20
Acrylonitrile	5	<5	<5
Benzene	1	<1	<1
Bromobenzene	1	<1	<1
Bromochloromethane	1	<1	<1
Bromodichloromethane	1	<1	<1
Bromoform	1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5
tert-Butyl alcohol	50	<50	<50
2-Butanone (MEK)	5	<5	<5
n-Butylbenzene	1	<1	<1
sec-Butylbenzene	1	<1	<1
tert-Butylbenzene	1	<1	<1
Carbon disulfide	1	<1	<1
Carbon tetrachloride	1	<1	<1
Chlorobenzene	1	<1	<1
Chloroethane	5	<5	<5
Chloroform	1	<1	<1
Chloromethane	5	<5	<5
Cyclohexane	5	<5	<5
Dibromochloromethane	1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5
Dibromomethane	1	<1	<1
1,2-Dichlorobenzene	1	<1	<1
1,3-Dichlorobenzene	1	<1	<1
1,4-Dichlorobenzene	1	<1	<1
Dichlorodifluoromethane	5	<5	<5
1,1-Dichloroethane	1	<1	<1
1,2-Dichloroethane	1	<1	<1
1,1-Dichloroethene	1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1
trans-1,2-Dichloroethene	1	<1	<1
1,2-Dichloropropane	1	<1	<1
cis-1,3-Dichloropropene	1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<0.5
Diethyl ether	5	<5	<5
Diisopropyl ether	5	6.2	5.8
Ethyl tert-Butyl ether	5	<5	<5
Ethylbenzene	1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1
Hexachloroethane	5	<5	<5
2-Hexanone	5	<5	<5
Isopropylbenzene	1	<1	<1
4-Isopropyltoluene	1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5
Methyl tert-butyl ether (MTBE)	1	7.8	7.7
Naphthalene	5	<5	<5
n-Propylbenzene	1	<1	<1
Styrene	1	<1	<1
tert-Amylmethyl ether	5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1
Tetrachloroethene	1	<1	<1
Tetrahydrofuran	5	<5	<5
Toluene	1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5
1,1,1-Trichloroethane	1	<1	<1
1,1,2-Trichloroethane	1	<1	<1
Trichloroethene	1	<1	<1
Trichlorofluoromethane	1	<1	<1
1,2,3-Trichloropropane	1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1
Vinyl chloride	1	<1	<1
Xylenes	3	<3	<3
Diesel Range Organics (DRO)	200	<200	<200
Oil Range Organics (ORO)	200	<200	450
Gasoline Range Organics (GRO)	200	<200	<200
-- Not sampled			
Result exceeds MDEQ TDL			
NA Parameter added per MDEQ 4/27/2009 letter			
< Not detected at the detection limit			

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2f - Historical Summary of Groundwater Analytical Results

MW-6

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2f - Historical Summary of Groundwater Analytical Results

MW-6

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	5/24/07	10/26/07	4/17/08	5/8/08	7/31/08	10/23/08	6/10/09	12/9/09	6/29/10	12/29/10	2/16/11	6/22/11
Acetone	20	<20	<20	<20	5.7J	<26 UJ	--	52J	27J	12J	<9.8U	<20	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	--	<50	<50	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	1,300	1,400	1,400	<50	817
2-Butanone (MEK)	5	<5	<5	<5	0.82J	<6.6 UJ	--	20J	<50	8.9	<10	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	--	<50	<50	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Diisopropyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	5.1	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	0.55J	0.81J	--	<50	6.6J	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	--	<100	<100	<10	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	--	NA	NA	NA	3,100	3,300	3,700	3,100	3,000	2,080
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	--	<30	<30	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2f - Historical Summary of Groundwater Analytical Results

MW-6

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	8/10/11	12/21/11	3/9/12	6/7/12	8/10/12	11/8/12	5/31/13	11/27/13	6/20/14	11/20/14	6/30/15	12/16/15	6/17/16	12/22/16	6/22/17
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	997	390	<50	464	687	440	530	390	290	640	410	260	310	200	240
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.4	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5	<5	5.3	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.2	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	2,460	2,130	798	1,670	1,900	2,500	1,400	1,400	1,100	1,300	1,100	860	810	670	680
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	6.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	28	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	13	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	<200	330	<200	360	<200	<200	<200	<200	<200
Oil Range Organics (ORO)	200	--	--	--	--	--	--	670	1,000	610	<200	230	270	230	360	310
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	<200	<200	<200	<200	<200	500	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2f - Historical Summary of Groundwater Analytical Results

MW-6

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ				
	TDL 5/20/03	12/27/17	5/29/18	11/21/18	6/13/19
Acetone	20	<20	<20	<20	<50
Acrylonitrile	5	<5	<5	<5	<10
Benzene	1	<1	<1	<1	<2.5
Bromobenzene	1	<1	<1	<1	<5
Bromochloromethane	1	<1	<1	<1	<5
Bromodichloromethane	1	<1	<1	<1	<5
Bromoform	1	<1	<1	<1	<5
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5
tert-Butyl alcohol	50	140	<50	240	250
2-Butanone (MEK)	5	<5	<5	<5	<25
n-Butylbenzene	1	<1	<1	<1	<2.5
sec-Butylbenzene	1	<1	<1	<1	<2.5
tert-Butylbenzene	1	<1	<1	<1	<5
Carbon disulfide	1	<1	<1	<1	<5
Carbon tetrachloride	1	<1	<1	<1	<5
Chlorobenzene	1	<1	<1	<1	<5
Chloroethane	5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<5
Chloromethane	5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<5
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<5
1,2-Dichlorobenzene	1	<1	<1	<1	<5
1,3-Dichlorobenzene	1	<1	<1	<1	<2.5
1,4-Dichlorobenzene	1	<1	<1	<1	<5
Dichlorodifluoromethane	5	<5	<5	<5	<2.5
1,1-Dichloroethane	1	<1	<1	<1	<2.5
1,2-Dichloroethane	1	<1	<1	<1	<2.5
1,1-Dichloroethene	1	<1	<1	<1	<2.5
cis-1,2-Dichloroethene	1	<1	<1	<1	<2.5
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<2.5
trans-1,2-Dichloroethene	1	<1	<1	<1	<2.5
1,2-Dichloropropane	1	<1	<1	<1	<2.5
cis-1,3-Dichloropropene	1	<1	<1	<1	<2.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<2.5
Diethyl ether	5	<5	<5	<5	<5
Diisopropyl ether	5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<5
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<5
Hexachloroethane	5	<5	<5	<5	<10
2-Hexanone	5	<5	<5	<5	<10
Isopropylbenzene	1	<1	<1	<1	<2.5
4-Isopropyltoluene	1	<1	<1	<1	<5
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<10
Methyl tert-butyl ether (MTBE)	1	710	260	560	610
Naphthalene	5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<2.5
Styrene	1	<1	<1	<1	<5
tert-Amylmethyl ether	5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<5
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<5
Tetrachloroethene	1	<1	<1	<1	<2.5
Tetrahydrofuran	5	<1	<1	<1	<10
Toluene	1	<1	<1	<1	<5
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<5
1,1,2-Trichloroethane	1	<1	<1	<1	<5
Trichloroethene	1	<1	<1	<1	<2.5
Trichlorofluoromethane	1	<1	<1	<1	<2.5
1,2,3-Trichloropropane	1	<1	<1	<1	<5
1,2,3-Trimethylbenzene	1	<1	<1	<1	<2.5
1,2,4-Trimethylbenzene	1	<1	<1	<1	<2.5
1,3,5-Trimethylbenzene	1	<1	<1	<1	<2.5
Vinyl chloride	1	<1	<1	<1	<5
Xylenes	3	<3	<3	<3	<7.5
Diesel Range Organics (DRO)	200	<200	--	<200	230
Oil Range Organics (ORO)	200	270	--	450	400
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2g - Historical Summary of Groundwater Analytical Results

MW-7

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ	MW-7														
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2g - Historical Summary of Groundwater Analytical Results

MW-7

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	5/24/07	10/26/07	4/17/08	5/8/08	8/1/08	10/22/08	6/10/09	12/9/09	6/30/10	12/29/10	6/22/11	12/21/11
Acetone	20	<20	<20	<20	6.3J	6.9J	--	--	4.3J	6.4J	<4.3 U	<20	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	0.74J	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	0.91J	3.4J	--	--	2.0J	<5	<10	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	3.9J	0.72J	--	--	1.0J	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	--	--	<10	<10	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	--	--	NA	NA	<1	<1	1.1	<1.0	1.11	<1.0
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	--	--	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2g - Historical Summary of Groundwater Analytical Results

MW-7

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	6/7/12	11/8/12	5/31/13	11/27/13	6/20/14	11/20/14	6/30/15	12/16/15	6/17/16	12/22/16	6/22/17	12/28/17	5/30/18	11/20/18	6/13/19
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Disopropyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	<1.0	<1.0	<2.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	<200	<200	<200	330	<200	--	<200	--	<200	--	<200	300	--
Oil Range Organics (ORO)	200	--	--	840	930	520	630	860	--	430	--	1,100	--	500	1,000	<200
Gasoline Range Organics (GRO)	200	--	--	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	--

-
- Not sampled
-
- Result exceeds MDEQ TDL
- NA
- Parameter added per MDEQ 4/27/2009 letter
- <
- Not detected at the detection limit

- Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2h - Historical Summary of Groundwater Analytical Results

MW-8

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- 1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - 2. Samples analyzed using Method SW846-8260
 - 3. All groundwater sample results in micrograms per liter (µg/L)

Table 2h - Historical Summary of Groundwater Analytical Results

MW-8

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	5/24/07	10/26/07	4/17/08	5/8/08	7/31/08	10/23/08	6/10/09	12/9/09	6/30/10	12/29/10	2/16/11	6/22/11
Acetone	20	<20	<20	<20	8.1J	5J	--	--	4.2J	5.6J	<2.6 U	<20	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	1.7J	--	--	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	84	<50	81	<50	71.6
2-Butanone (MEK)	5	<5	<5	<5	<5	<6.5 UJ	--	--	<5	<5	<10	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	0.56J	--	--	3.1J	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	--	--	<10	<10	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	--	--	NA	NA	5.4	5.8	6.2	5.2	9.67	6.17
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	--	--	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2h - Historical Summary of Groundwater Analytical Results

MW-8

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	12/20/11	3/9/12	6/7/12	8/10/12	11/8/12	1/30/13	5/30/13	11/27/13	6/20/14	11/20/14	6/30/15	12/16/15	6/17/16	12/21/16	6/22/17
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	76.3	<50	124	97.5	60	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Disopropyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	6.21	10.6	11.2	9.4	4.3	2.9	<3.0	2.5	2.8	<3.7	5.2	<4.0	5.1	3.7	5.2
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	350	310	<200	470	<200	--	<200	--	290
Oil Range Organics (ORO)	200	--	--	--	--	--	--	510	820	650	520	410	--	450	--	590
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	<200	<200	<200	<200	<200	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2h - Historical Summary of Groundwater Analytical Results

MW-8

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ				
	TDL 5/20/03	12/28/17	5/30/18	11/20/18	6/13/19
Acetone	20	<20	<20	<20	<20
Acrylonitrile	5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5
tert-Butyl alcohol	50	86	98	<50	69
2-Butanone (MEK)	5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<0.5
Diethyl ether	5	<5	<5	<5	<5
Disopropyl ether	5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	9.0	9.9	5.7	7.2
Naphthalene	5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	<200	<200	--	400
Oil Range Organics (ORO)	200	240	640	--	600
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2i - Historical Summary of Groundwater Analytical Results

MW-9

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2i - Historical Summary of Groundwater Analytical Results

MW-9

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	2/2/07	5/24/07	10/26/07	4/17/08	5/8/08	7/31/08	10/24/08	6/9/09	7/23/09	12/9/09	6/29/10	7/30/10
Acetone	20	<20	<20	<20	<20	<20	9.4J	--	56J	26J	4.2J	<23 U	<9-<14U	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	--	<50	<50	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	490	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	3J	--	16J	<50	<5	3.8J	2.1-2.3J	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	--	<50	<50	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	--	<50	<50	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	--	<100	<100	<10	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	--	NA	NA	NA	1,100	1,500	2,100	3,000	1,300
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1
Vinyl chloride	1	<1	<1	5	<1	<1	<1	--	<10	<10	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	--	<30	<30	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2i - Historical Summary of Groundwater Analytical Results

MW-9

Groundwater Monitoring Report

Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ TDL 5/20/03	12/28/10	2/16/11	6/21/11	8/10/11	12/20/11	3/8/12	6/6/12	11/7/12	5/31/13	11/26/13	6/19/14	11/19/14	6/29/15	12/15/15	6/16/16
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	500	<50	134	138	274	<50	220	350	210	200	<50 J,V-	270	71	120	170
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1											

--	Not sampled
	Result exceeds MDEQ TDL
NA	Parameter added per MDEQ 4/27/2009 letter
<	Not detected at the detection limit

Notes:

1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2i - Historical Summary of Groundwater Analytical Results

MW-9

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ						
	TDL 5/20/03	12/21/16	6/21/17	12/27/17	5/29/18	11/19/18	6/13/19
Acetone	20	<20	<20	<20	<20	<100	<50
Acrylonitrile	5	<2	<2	<2	<2	<2	<10
Benzene	1	<1	<1	<1	<1	<1	<5
Bromobenzene	1	<1	<1	<1	<1	<1	<5
Bromochloromethane	1	<1	<1	<1	<1	<1	<5
Bromodichloromethane	1	<1	<1	<1	<1	<1	<5
Bromoform	1	<1	<1	<1	<1	<1	<5
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<10
tert-Butyl alcohol	50	200	180	220	<50	<500	<130
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<25
n-Butylbenzene	1	<1	<1	<1	<1	<1	<5
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<2.5
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<5
Carbon disulfide	1	<1	<1	<1	<1	<1	<5
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<5
Chlorobenzene	1	<1	<1	<1	<1	<1	<5
Chloroethane	5	<5	<5	<5	<5	<5	<10
Chloroform	1	<1	<1	<1	<1	<1	<2.5
Chloromethane	5	<5	<5	<5	<5	<5	<10
Cyclohexane	5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<5
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<5
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<5
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<5
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<5
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<10
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<2.5
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<5
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<5
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<2.5
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<5
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<5
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<5
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<2.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<2.5
Diethyl ether	5	<5	<5	<5	<5	<5	<5
Disopropyl ether	5	6.1	<5	<5	5.6	<5	5.1
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<2.5
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<2.5
Hexachloroethane	5	<5	<5	<5	<5	<5	<10
2-Hexanone	5	<5	<5	<5	<5	<5	<10
Isopropylbenzene	1	<1	<1	<1	<1	<1	<2.5
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<5
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<10
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<25
Methyl tert-butyl ether (MTBE)	1	680	630	590	610	270	520
Naphthalene	5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<5
Styrene	1	<1	<1	<1	<1	<1	<5
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<25
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<5
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<5
Tetrachloroethene	1	<1	<1	<1	<1	<1	<5
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<25
Toluene	1	<1	<1	<1	<1	<1	<5
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<10
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<5
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<5
Trichloroethene	1	<1	<1	<1	<1	<1	<5
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<5
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<5
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<5
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<2.5
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<5
Vinyl chloride	1	<1	<1	<1	<1	<1	<5
Xylenes	3	<3	<3	<3	<3	<3	<7.5
Diesel Range Organics (DRO)	200	<200	<200	<200	<200	<200	<200
Oil Range Organics (ORO)	200	<200	450	<200	<200	330	270
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200	<200	<200

- Not sampled
- Result exceeds MDEQ TDL
- NA Parameter added per MDEQ 4/27/2009 letter
- < Not detected at the detection limit

- Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2j - Historical Summary of Groundwater Analytical Results

MW-10

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	9/15/99	12/8/99	3/16/00	5/18/00	7/18/00	10/4/00	5/30/01	11/26/01	4/2/02	10/3/02	3/24/03	9/24/03	4/5/04	10/22/04	4/21/05
Acetone	20	<25	25	<25	<25	<25	26	<25	<25	<25	140	<25	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2j - Historical Summary of Groundwater Analytical Results

MW-10

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	10/27/05	5/21/06	11/28/06	5/24/07	10/26/07	4/17/08	5/8/08	7/31/08	10/23/08	6/10/09	12/9/09	6/30/10	12/29/10	6/22/11	12/21/11
Acetone	20	<20	<20	<20	3.8J	<20 J	--	--	9.6J	11J	<9.8 U	<20	<20	<20	<20	<20
Acrylonitrile	5	--	--	--	--	--	--	--	--	--	--	<2	<2	<2	<2	<2
Benzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromochloromethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	2.6J	--	--	5.1	<5	1.3J	<5	<5	<5	<5	<5
n-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
sec-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Butylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon disulfide	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Chloromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Cyclohexane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Dibromomethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Diethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Disopropyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Hexachloroethane	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
2-Hexanone	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Isopropylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	0.86J	<5	--	--	1.4J	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	--	--	<10	<10	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	NA	NA	NA	NA	NA	--	--	NA	NA	6.3	7.8	12	11	7.45	8.12
Naphthalene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
n-Propylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Styrene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Tetrahydrofuran	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	--	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<1	<1	<1	<1	<1	--	--	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO)	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2j - Historical Summary of Groundwater Analytical Results

MW-10

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ															
	TDL 5/20/03	6/7/12	11/8/12	5/31/13	11/27/13	6/20/14	11/20/14	6/30/15	12/16/15	6/16/16	12/22/16	6/22/17	12/28/17	5/30/18	11/20/18	6/13/19
Acetone	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50 J, V-	<50	78	<50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Disopropyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	<1	6.9	4.5	4.5	4.0	5.1	5.6	<4.9	5.3	4.7	5.3	5.3	4.7	4.8	4.1
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	--	--	<200	<200	--	--	--	--	--	--	--	--	--	550	--
Oil Range Organics (ORO)	200	--	--	440	740	--	--	--	--	--	--	--	--	--	970	--
Gasoline Range Organics (GRO)	200	--	--	<200	<200	<200	<200	<200	--	--	--	--	<200	<200	<200	<200

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

- Notes:
- Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
 - Samples analyzed using Method SW846-8260
 - All groundwater sample results in micrograms per liter (µg/L)

Table 2k - Historical Summary of Groundwater Analytical Results

MW-11

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ							
	TDL 5/20/03	6/17/16	12/22/16	6/21/17	12/28/17	5/29/18	11/19/18	6/13/19
Acetone	20	32,000	45,000	38,000	25,000	19,000	37,000	29,000
Acrylonitrile	5	<5	<1,000	<1,000	<1,000	<1,000	<2,000	<2,000
Benzene	1	420	<500	650	360	600	630	<1000
Bromobenzene	1	<1	<500	<500	<500	<500	<1,000	<1,000
Bromochloromethane	1	<1	<500	<500	<500	<500	<500	<1000
Bromodichloromethane	1	<1	<500	<500	<500	<500	<1,000	<1,000
Bromoform	1	<1	<500	<500	<500	<500	<1,000	<1,000
Bromomethane (Methyl bromide)	5	<5	<2,500	<2,500	<2,500	<2,500	<5,000	<2000
tert-Butyl alcohol	50	3,000	<10,000	<20,000	<5,000	<10,000	<20,000	<25,000
2-Butanone (MEK)	5	17,000	21,000	16,000	10,000	7,700	10,000	9,300
n-Butylbenzene	1	<1	<500	<500	<500	<500	<500	<1000
sec-Butylbenzene	1	<1	<500	<500	<500	<500	<500	<500
tert-Butylbenzene	1	<1	<500	<500	<500	<500	<1,000	<1,000
Carbon disulfide	1	<1	<500	<500	<500	<500	<1,000	<1,000
Carbon tetrachloride	1	<1	<500	<500	<500	<500	<1,000	<1,000
Chlorobenzene	1	<1	<500	<500	<500	<500	<1,000	<1,000
Chloroethane	5	<5	<1,000	<1,000	<1,000	<1,000	<2,000	<2,000
Chloroform	1	<1	<500	<500	<50	<500	<1,000	<500
Chloromethane	5	<5	<1,000	<1,000	<1,000	<1,000	<1,000	<2000
Cyclohexane	5	<5	<500	<500	<500	<500	<1,000	<1,000
Dibromochloromethane	1	<1	<500	<500	<500	<500	<500	<1000
1,2-Dibromo-3-chloropropane	5	<5	<500	<500	<500	<500	<1,000	<1,000
Dibromomethane	1	<1	<500	<500	<500	<500	<500	<1000
1,2-Dichlorobenzene	1	<1	<500	<500	<500	<500	<500	<1000
1,3-Dichlorobenzene	1	<1	<500	<500	<500	<500	<500	<1000
1,4-Dichlorobenzene	1	<1	<500	<500	<500	<500	<1000	<1000
Dichlorodifluoromethane	5	<5	<500	<500	<500	<500	<2,000	<2,000
1,1-Dichloroethane	1	920	920	890	780	980	930	800
1,2-Dichloroethane	1	<1	<500	<500	<500	<500	<500	<1000
1,1-Dichloroethene	1	<1	<500	<500	<500	<500	<500	<1000
cis-1,2-Dichloroethene	1	7,500	7,900	8,300	7,400	9,400	10,000	8,800
trans-1,4-Dichloro-2-butene	5	<1	<250	<250	<250	<250	<500	<1000
trans-1,2-Dichloroethene	1	<1	<250	<250	<250	<250	<500	<1000
1,2-Dichloropropane	1	<1	<500	<500	<500	<500	<500	<1000
cis-1,3-Dichloropropene	1	<1	<500	<500	<500	<500	<500	<500
trans-1,3-Dichloropropene	1	<1	<500	<500	<500	<500	<500	<500
Diethyl ether	5	61	<500	<500	70	<500	<1,000	<1,000
Disopropyl ether	5	95	<500	<500	94	<500	<500	<1000
Ethyl tert-Butyl ether	5	<5	<500	<500	<500	<500	<1,000	<1,000
Ethylbenzene	1	6,900	8,600	13,000	5,700	15,000	13,000	13,000
1,2-Dibromomethane (EDB)	1	<1	<500	<500	<500	<500	<1,000	<1,000
Hexachloroethane	5	<5	<500	<500	<500	<500	<1,000	<2000
2-Hexanone	5	<5	<2,500	<2,500	<2,500	<2,500	<5,000	<2000
Isopropylbenzene	1	<1	<500	<500	<50	<50	<500	<500
4-Isopropyltoluene	1	<1	<500	<500	<500	<500	<1,000	<1,000
Methylene chloride (Dichloromethane)	5	350	<500	<500	<500	700	<500	<2000
4-Methyl-2-pentanone (MIBK)	5	83,000	84,000	78,000	67,000	51,000	57,000	42,000
Methyl tert-butyl ether (MTBE)	1	19,000	17,000	12,000	13,000	8,700	8,000	6,300
Naphthalene	5	<5	<2,500	<2,500	<2,500	<2,500	<1,000	<1,000
n-Propylbenzene	1	<1	<250	<250	<250	<250	<500	<1000
Styrene	1	<1	<500	<500	<500	<500	<1,000	<1,000
tert-Amylmethyl ether	5	200	<1,000	<1,000	<1,000	<1,000	<2,000	<5000
1,1,1,2-Tetrachloroethane	1	<1	<250	<250	<250	<250	<500	<1000
1,1,2,2-Tetrachloroethane	1	<1	<500	<500	<500	<500	<1,000	<1,000
Tetrachloroethene	1	59	<250	<250	<250	<250	<500	<1000
Tetrahydrofuran	5	40,000	46,000	35,000	38,000	22,000	24,000	20,000
Toluene	1	57,000	61,000	89,000	40,000	100,000	89,000	83,000
1,2,3-Trichlorobenzene	5	<5	<2,500	<2,500	<2,500	<2,500	<1,000	<1,000
1,2,4-Trichlorobenzene	5	<5	<2,500	<2,500	<2,500	<2,500	<1,000	<2000
1,1,1-Trichloroethane	1	<1	<250	<250	<250	<250	<1,000	<1,000
1,1,2-Trichloroethane	1	<1	<500	<500	<500	<500	<1,000	<1,000
Trichloroethene	1	<1	<250	<250	<250	<250	<500	<1000
Trichlorofluoromethane	1	<1	<500	<500	<500	<500	<500	<1000
1,2,3-Trichloropropane	1	<1	<500	<500	<500	<500	<1,000	<1,000
1,2,3-Trimethylbenzene	1	<1	<500	<500	<500	<500	<500	<1000
1,2,4-Trimethylbenzene	1	210	<500	<500	220	680	570	550
1,3,5-Trimethylbenzene	1	76	<500	<500	69	<500	<500	<1000
Vinyl chloride	1	170	<250	<250	230	<250	<500	<1000
Xylenes	3	32,000	38,000	56,000	25,000	67,000	57,000	56,000
Diesel Range Organics (DRO)	200	5,700	5,100	5,500	4,000	5,400	7,800	4,600
Oil Range Organics (ORO)	200	660	1,600	2,600	1,000	2,000	4,100	960
Gasoline Range Organics (GRO)	200	140,000	130,000	260,000	120,000	210,000	240,000	160,000

-- Not sampled
Result exceeds MDEQ TDL
NA Parameter added per MDEQ 4/27/2009 letter
< Not detected at the detection limit

Notes:
1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)
2. Samples analyzed using Method SW846-8260
3. All groundwater sample results in micrograms per liter (µg/L)

Table 2I - Historical Summary of Groundwater Analytical Results

MW-12

Groundwater Monitoring Report
Petro-Chem Processing Group Facility - Detroit, Michigan

Analyte	MDEQ							
	TDL 5/20/03	6/17/16	12/22/16	6/21/17	12/28/17	5/29/18	11/19/18	6/13/19
Acetone	20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	5	<5	<5	<5	<5	<5	<5	<5
Benzene	1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	5	<5	<5	<5	<5	<5	<5	<5
tert-Butyl alcohol	50	<50	<50	<50	<50	<50	<50	<50
2-Butanone (MEK)	5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	5	<5	<5	<5	<5	<5	<5	<5
Chloroform	1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	5	<5	<5	<5	<5	<5	<5	<5
Cyclohexane	5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	1	<1	<1	<1	<1	<1	<1	<0.5
Diethyl ether	5	<5	<5	<5	<5	<5	<5	<5
Disopropyl ether	5	<5	<5	<5	<5	<5	<5	<5
Ethyl tert-Butyl ether	5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromomethane (EDB)	1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride (Dichloromethane)	5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	5	<5	<5	<5	<5	<5	<5	<5
Methyl tert-butyl ether (MTBE)	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	5	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	1	<1	<1	<1	<1	<1	<1	<1
Styrene	1	<1	<1	<1	<1	<1	<1	<1
tert-Amylmethyl ether	5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	5	<5	<5	<5	<5	<5	<5	<5
Toluene	1	<1	<1	2.4	<1	<1	<1	<1
1,2,3-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	1	<1	<1	<1	<1	<1	<1	<1
Xylenes	3	<3	<3	<3	<3	<3	<3	<3
Diesel Range Organics (DRO)	200	<200	<200	<200	<200	<200	<200	<200
Oil Range Organics (ORO)	200	<200	<200	<200	300	<200	480	240
Gasoline Range Organics (GRO)	200	<200	<200	<200	<200	<200	<200	<200

- Not sampled
- Result exceeds MDEQ TDL
- J Estimated concentration
- NA Parameter added per MDEQ 4/27/2009 letter
- < Not detected at the detection limit

Notes:

1. Michigan Department of Environmental Quality (MDEQ) Target Detection Limit (TDL)

2. Samples analyzed using Method SW846-8260

3. All groundwater sample results in micrograms per liter (µg/L)



APPENDIX D
STATISTICAL EVALUATION

MANN-KENDALL TEST FOR TREND

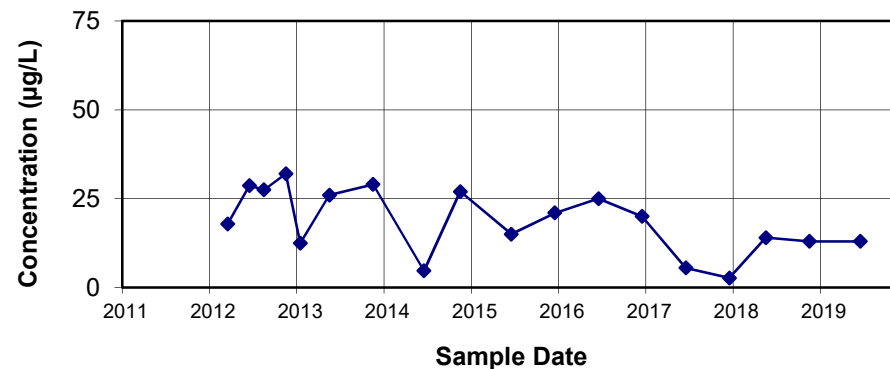
Well: MW-1

Analyte: MtBE

MW-1	MtBE		
	Raw	Value	Index
Mar-12	17.9	17.9	1
Jun-12	28.7	28.7	2
Aug-12	27.5	27.5	3
Nov-12	32	32	4
Jan-13	12.5	12.5	5
May-13	26	26	6
Nov-13	29	29	7
Jun-14	4.7	4.7	8
Nov-14	27	27	9
Jun-15	15	15	10
Dec-15	21	21	11
Jun-16	25	25	12
Dec-16	20	20	13
Jun-17	5.5	5.5	14
Dec-17	2.7	2.7	15
May-18	14	14	16
Nov-18	13	13	17
Jun-19	13	13	18

Calculation Matrix																	+	-	
11	10	14	-5	8	11	-13	9	-3	3	7	2	-12	-15	-4	-5	-5	9	8	
	-1	3	-16	-3	0	-24	-2	-14	-8	-4	-9	-23	-26	-15	-16	-16	2	14	
		5	-15	-2	2	-23	-1	-13	-7	-3	-8	-22	-25	-14	-15	-15	2	13	
			-20	-6	-3	-27	-5	-17	-11	-7	-12	-27	-29	-18	-19	-19	0	14	
				14	17	-8	15	3	9	13	8	-7	-10	2	1	1	10	3	
					3	-21	1	-11	-5	-1	-6	-21	-23	-12	-13	-13	2	10	
						-24	-2	-14	-8	-4	-9	-24	-26	-15	-16	-16	0	11	
							22	10	16	20	15	1	-2	9	8	8	9	1	
								-12	-6	-2	-7	-22	-24	-13	-14	-14	0	9	
									6	10	5	-10	-12	-1	-2	-2	3	5	
										4	-1	-16	-18	-7	-8	-8	1	6	
											-5	-20	-22	-11	-12	-12	0	6	
												-15	-17	-6	-7	-7	0	5	
													-3	9	8	8	3	1	
														11	10	10	3	0	
															-1	-1	0	2	
																0	0	0	
																	SUM	44	108

MW-1
MtBE vs. Time



**Mann-Kendall
Trend Statistic (S)**

-64

**Significant
Trend**

Downward

Coefficient of Variance

**0.49
Stable**

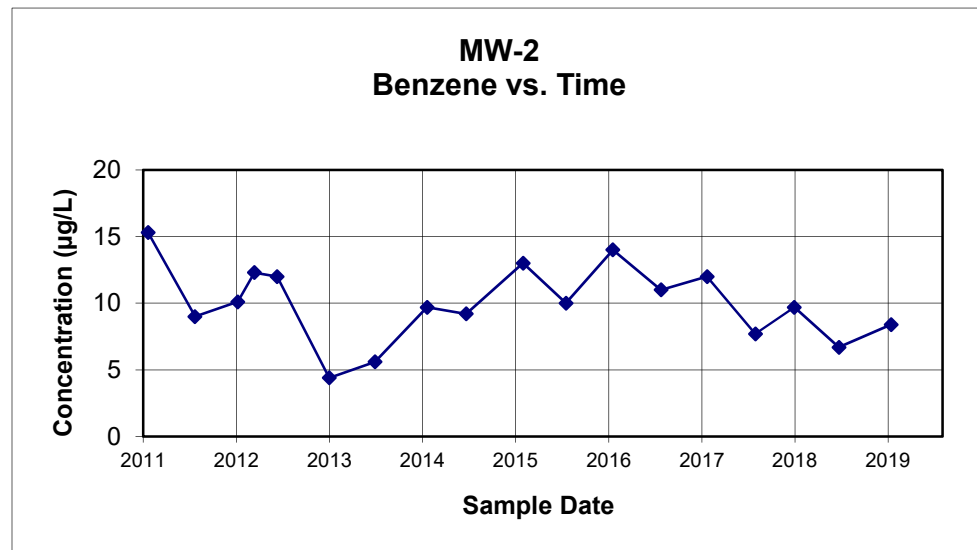
MANN-KENDALL TEST FOR TREND

Well: MW-2

Analyte: Benzene

MW-2	Benzene		
	Date	Raw	Value
		Value	Index
Jun-11	15.3	15.3	1
Dec-11	9	9	2
Jun-12	10.1	10.1	3
Aug-12	12.3	12.3	4
Nov-12	12	12	5
May-13	4.4	4.4	6
Nov-13	5.6	5.6	7
Jun-14	9.7	9.7	8
Nov-14	9.2	9.2	9
Jun-15	13	13	10
Dec-15	10	10	11
Jun-16	14	14	12
Dec-16	11	11	13
Jun-17	12	12	14
Dec-17	7.7	7.7	15
May-18	9.7	9.7	16
Nov-18	6.7	6.7	17
Jun-19	8.4	8.4	18

Calculation Matrix																	+	-	
-6	-5	-3	-3	-11	-10	-6	-6	-2	-5	-1	-4	-3	-8	-6	-9	-7	0	17	
	1	3	3	-5	-3	1	0	4	1	5	2	3	-1	1	-2	-1	11	5	
		2	2	-6	-5	0	-1	3	0	4	1	2	-2	0	-3	-2	6	9	
			0	-8	-7	-3	-3	1	-2	2	-1	0	-5	-3	-6	-4	2	12	
				-8	-6	-2	-3	1	-2	2	-1	0	-4	-2	-5	-4	2	10	
					1	5	5	9	6	10	7	8	3	5	2	4	12	0	
						4	4	7	4	8	5	6	2	4	1	3	11	0	
							-1	3	0	4	1	2	-2	0	-3	-1	5	4	
								4	1	5	2	3	-2	1	-3	-1	6	3	
									-3	1	-2	-1	-5	-3	-6	-5	1	7	
										4	1	2	-2	0	-3	-2	3	4	
											-3	-2	-6	-4	-7	-6	0	6	
												1	-3	-1	-4	-3	1	4	
													-4	-2	-5	-4	0	4	
														2	-1	1	2	1	
															-3	-1	0	2	
																2	1	0	
																	SUM	63	88



Mann-Kendall Trend Statistic (S)
-25
Significant Trend
Insignificant
Coefficient of Variance
0.29
Stable

Analyte: tert-Butyl alcohol

MANN-KENDALL TEST FOR TREND

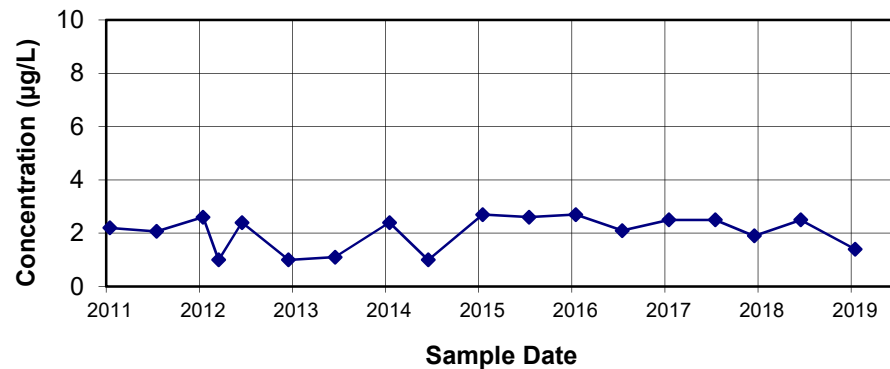
Well: MW-2

Analyte: Isopropylbenzene

MW-2	Isopropylbenzene		
Date	Raw	Value	Index
Jun-11	2.2	2.2	1
Dec-11	2.07	2.07	2
Jun-12	2.6	2.6	3
Aug-12	1	1	4
Nov-12	2.4	2.4	5
May-13	1	1	6
Nov-13	1.1	1.1	7
Jun-14	2.4	2.4	8
Nov-14	1	1	9
Jun-15	2.7	2.7	10
Dec-15	2.6	2.6	11
Jun-16	2.7	2.7	12
Dec-16	2.1	2.1	13
Jun-17	2.5	2.5	14
Dec-17	2.5	2.5	15
May-18	1.9	1.9	16
Nov-18	2.5	2.5	17
Jun-19	1.4	1.4	18

Calculation Matrix																	+	-
0	0	-1	0	-1	-1	0	-1	1	0	1	0	0	0	0	0	-1	9	8
	1	-1	0	-1	-1	0	-1	1	1	1	0	0	0	0	0	-1	10	6
		-2	0	-2	-2	0	-2	0	0	0	-1	0	0	-1	0	-1	2	12
			1	0	0	1	0	2	2	2	1	2	2	1	2	0	12	0
				-1	-1	0	-1	0	0	0	0	0	0	-1	0	-1	6	6
					0	1	0	2	2	2	1	2	2	1	2	0	11	0
						1	0	2	2	2	1	1	1	1	1	0	10	1
							-1	0	0	0	0	0	0	-1	0	-1	6	4
								2	2	2	1	2	2	1	2	0	9	0
									0	0	-1	0	0	-1	0	-1	0	7
										0	-1	0	0	-1	0	-1	1	6
											-1	0	0	-1	0	-1	0	6
												0	0	0	0	-1	3	2
													0	-1	0	-1	0	2
														-1	0	-1	0	2
															1	-1	1	1
																-1	0	1
																SUM	80	64

MW-2
Isopropylbenzene vs. Time



Mann-Kendall
Trend Statistic (S)

16

Significant
Trend

Insignificant

Coefficient of Variance

0.31
Stable

MANN-KENDALL TEST FOR TREND

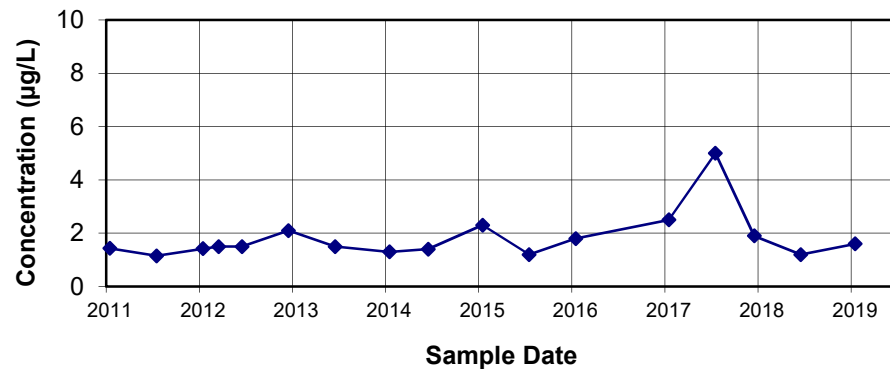
Well: MW-2

Analyte: MtBE

MW-2	MtBE		
	Raw	Value	Index
Jun-11	1.43	1.43	1
Dec-11	1.15	1.15	2
Jun-12	1.42	1.42	3
Aug-12	1.5	1.5	4
Nov-12	1.5	1.5	5
May-13	2.1	2.1	6
Nov-13	1.5	1.5	7
Jun-14	1.3	1.3	8
Nov-14	1.4	1.4	9
Jun-15	2.3	2.3	10
Dec-15	1.2	1.2	11
Jun-16	1.8	1.8	12
Dec-06	1.5	1.5	13
Jun-17	2.5	2.5	14
Dec-17	5	5	15
May-18	1.9	1.9	16
Nov-18	1.2	1.2	17
Jun-19	1.6	1.6	18

Calculation Matrix																	+	-
0	0	0	0	1	0	0	0	1	0	0	0	1	4	0	0	0	11	6
	0	0	0	1	0	0	0	1	0	1	0	1	4	1	0	0	16	0
		0	0	1	0	0	0	1	0	0	0	1	4	0	0	0	11	4
			0	1	0	0	0	1	0	0	0	1	4	0	0	0	7	4
				1	0	0	0	1	0	0	0	1	4	0	0	0	7	4
					-1	-1	-1	0	-1	0	-1	0	3	0	-1	-1	3	9
						0	0	1	0	0	0	1	4	0	0	0	6	4
							0	1	0	1	0	1	4	1	0	0	8	2
								1	0	0	0	1	4	1	0	0	7	2
									-1	-1	-1	0	3	0	-1	-1	2	6
										1	0	1	4	1	0	0	6	0
											0	1	3	0	-1	0	3	3
												1	4	0	0	0	4	1
													3	-1	-1	-1	1	3
														-3	-4	-3	0	3
															-1	0	0	2
																0	1	0
																	SUM	93 53

MW-2
MtBE vs. Time



Mann-Kendall
Trend Statistic (S)

40

Significant
Trend

Insignificant

Coefficient of Variance

0.49
Stable

MANN-KENDALL TEST FOR TREND

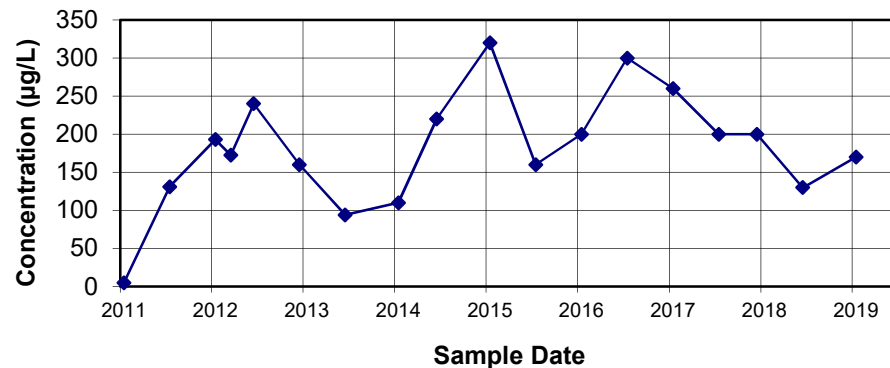
Well: MW-2

Analyte: Tetrahydrofuran

MW-2		Tetrahydrofuran	
Date	Raw	Value	Index
Jun-11	5	5	1
Dec-11	131	131	2
Jun-12	193	193	3
Aug-12	172.5	172.5	4
Nov-12	240	240	5
May-13	160	160	6
Nov-13	94	94	7
Jun-14	110	110	8
Nov-14	220	220	9
Jun-15	320	320	10
Dec-15	160	160	11
Jun-16	200	200	12
Dec-16	300	300	13
Jun-17	260	260	14
Dec-17	200	200	15
May-18	200	200	16
Nov-18	130	130	17
Jun-19	170	170	18

Calculation Matrix																	+	-
126	188	168	235	155	89	105	215	315	155	195	295	255	195	195	125	165	17	0
	62	42	109	29	-37	-21	89	189	29	69	169	129	69	69	-1	39	13	3
		-21	47	-33	-99	-83	27	127	-33	7	107	67	7	7	-63	-23	8	7
			68	-13	-79	-63	48	148	-13	28	128	88	28	28	-43	-3	8	6
				-80	-146	-130	-20	80	-80	-40	60	20	-40	-40	-110	-70	3	10
					-66	-50	60	160	0	40	140	100	40	40	-30	10	8	3
						16	126	226	66	106	206	166	106	106	36	76	11	0
							110	210	50	90	190	150	90	90	20	60	10	0
								100	-60	-20	80	40	-20	-20	-90	-50	3	6
									-160	-120	-20	-60	-120	-120	-190	-150	0	8
										40	140	100	40	40	-30	10	6	1
											100	60	0	0	-70	-30	2	2
												-40	-100	-100	-170	-130	0	5
													-60	-60	-130	-90	0	4
														0	-70	-30	0	2
															-70	-30	0	2
																40	1	0
																SUM	90	59

MW-2
Tetrahydrofuran vs. Time



Mann-Kendall
Trend Statistic (S)

31

Significant
Trend

Insignificant

Coefficient of Variance

0.41
Stable

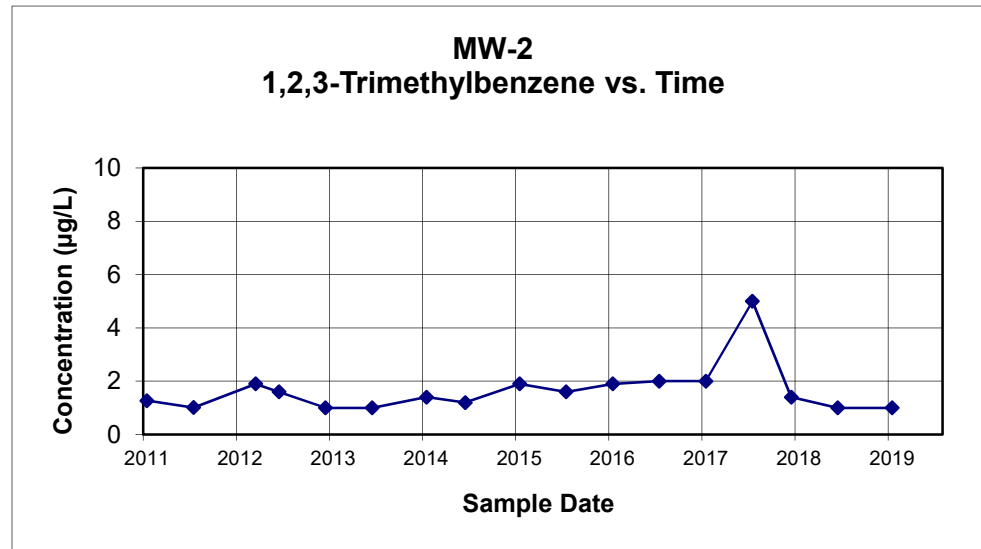
MANN-KENDALL TEST FOR TREND

Well: MW-2

Analyte: 1,2,3-Trimethylbenzene

MW-2	1,2,3-Trimethylbenzene		
Date	Raw	Value	Index
Dec-10	2.3	2.3	1
Jun-11	1.27	1.27	2
Dec-11	1.01	1.01	3
Aug-12	1.9	1.9	4
Nov-12	1.6	1.6	5
May-13	1	1	6
Nov-13	1	1	7
Jun-14	1.4	1.4	8
Nov-14	1.2	1.2	9
Jun-15	1.9	1.9	10
Dec-15	1.6	1.6	11
Jun-16	1.9	1.9	12
Dec-16	2	2	13
Jun-17	2	2	14
Dec-17	5	5	15
May-18	1.4	1.4	16
Nov-18	1	1	17
Jun-19	1	1	18

Calculation Matrix																	+	-
-1	-1	0	-1	-1	-1	-1	-1	0	-1	0	0	0	3	-1	-1	-1	1	16
	0	1	0	0	0	0	0	1	0	1	1	1	4	0	0	0	10	6
		1	1	0	0	0	0	1	1	1	1	1	4	0	0	0	11	4
			0	-1	-1	-1	-1	0	0	0	0	0	3	-1	-1	-1	3	9
				-1	-1	0	0	0	0	0	0	0	3	0	-1	-1	5	7
					0	0	0	1	1	1	1	1	4	0	0	0	9	0
						0	0	1	1	1	1	1	4	0	0	0	9	0
							0	1	0	1	1	1	4	0	0	0	6	3
								1	0	1	1	1	4	0	0	0	7	2
									0	0	0	0	3	-1	-1	-1	3	4
										0	0	0	3	0	-1	-1	4	3
											0	0	3	-1	-1	-1	3	3
												0	3	-1	-1	-1	1	3
													3	-1	-1	-1	1	3
														-4	-4	-4	0	3
															0	0	0	2
																0	0	0
																	73	68



Mann-Kendall Trend Statistic (S)
5
Significant Trend
Insignificant
Coefficient of Variance
0.55
Stable

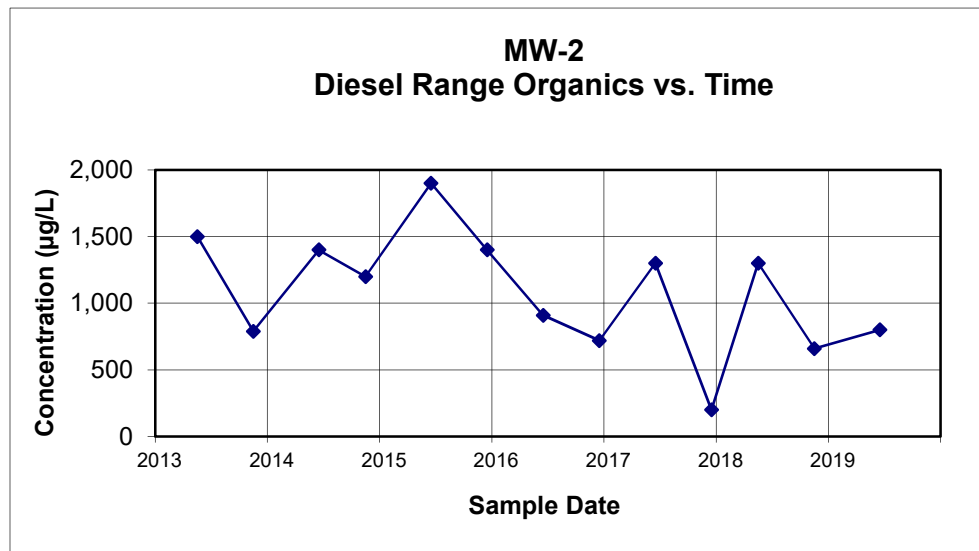
MANN-KENDALL TEST FOR TREND

Well: MW-2

Analyte: Diesel Range Organics

MW-2	Diesel Range Organics		
Date	Raw	Value	Index
May-13	1500	1500	1
Nov-13	790	790	2
Jun-14	1400	1400	3
Nov-14	1200	1200	4
Jun-15	1900	1900	5
Dec-15	1400	1400	6
Jun-16	910	910	7
Dec-16	720	720	8
Jun-17	1300	1300	9
Dec-17	200	200	10
May-18	1300	1300	11
Nov-18	660	660	12
Jun-19	800	800	13
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-		
-710	-100	-300	400	-100	-590	-780	-200	-1300	-200	-840	-700	0	0	0	0	0	1	11		
	610	410	1110	610	120	-70	510	-590	510	-130	10	0	0	0	0	0	8	3		
		-200	500	0	-490	-680	-100	-1200	-100	-740	-600	0	0	0	0	0	1	8		
			700	200	-290	-480	100	-1000	100	-540	-400	0	0	0	0	0	4	5		
				-500	-990	-1180	-600	-1700	-600	-1240	-1100	0	0	0	0	0	0	8		
					-490	-680	-100	-1200	-100	-740	-600	0	0	0	0	0	0	7		
						-190	390	-710	390	-250	-110	0	0	0	0	0	2	4		
							580	-520	580	-60	80	0	0	0	0	0	3	2		
								-1100	0	-640	-500	0	0	0	0	0	0	3		
									1100	460	600	0	0	0	0	0	3	0		
										-640	-500	0	0	0	0	0	0	2		
											140	0	0	0	0	0	1	0		
												0	0	0	0	0	0	0		
													0	0	0	0	0	0		
														0	0	0	0	0		
															0	0	0	0		
																0	0	0		
																	0	0		
																		SUM	23	53



Mann-Kendall Trend Statistic (S)
-30
Significant Trend
Insignificant
Coefficient of Variance
0.42
Stable

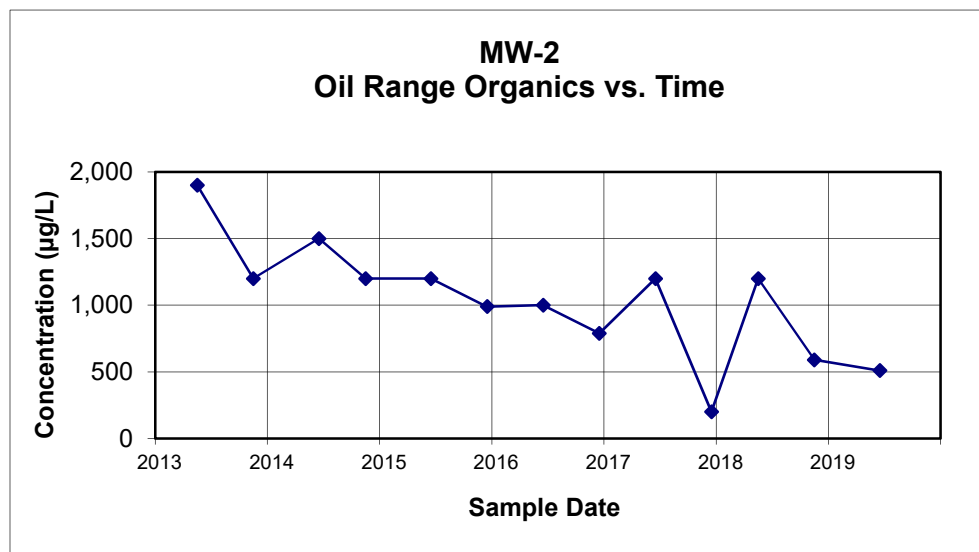
MANN-KENDALL TEST FOR TREND

Well: MW-2

Analyte: Oil Range Organics

MW-2	Oil Range Organics		
Date	Raw	Value	Index
May-13	1900	1900	1
Nov-13	1200	1200	2
Jun-14	1500	1500	3
Nov-14	1200	1200	4
Jun-15	1200	1200	5
Dec-15	990	990	6
Jun-16	1000	1000	7
Dec-16	790	790	8
Jun-17	1200	1200	9
Dec-17	200	200	10
May-18	1200	1200	11
Nov-18	590	590	12
Jun-19	510	510	13
		0	
		0	
		0	
		0	
		0	

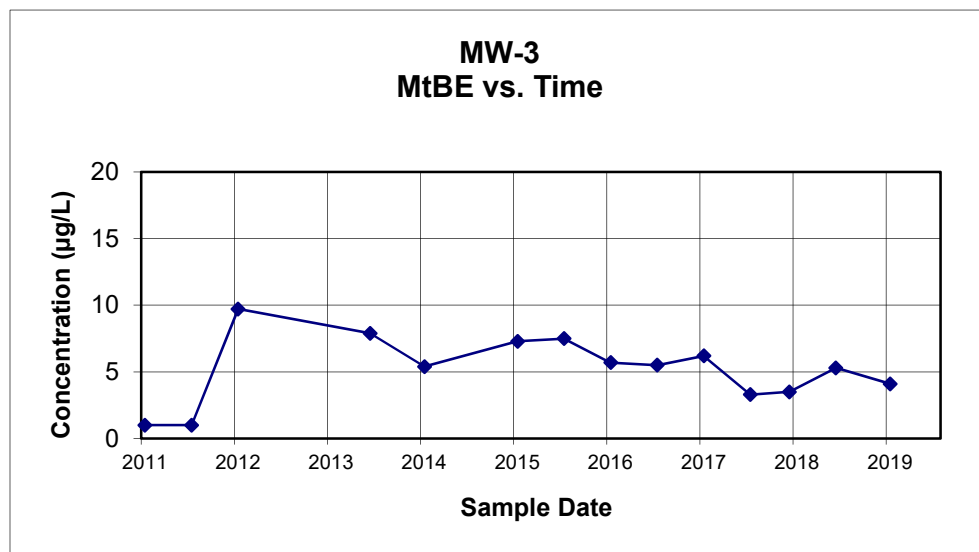
Calculation Matrix																	+	-		
-700	-400	-700	-700	-910	-900	-1110	-700	-1700	-700	-1310	-1390	0	0	0	0	0	0	12		
	300	0	0	-210	-200	-410	0	-1000	0	-610	-690	0	0	0	0	0	1	6		
		-300	-300	-510	-500	-710	-300	-1300	-300	-910	-990	0	0	0	0	0	0	10		
			0	-210	-200	-410	0	-1000	0	-610	-690	0	0	0	0	0	0	6		
				-210	-200	-410	0	-1000	0	-610	-690	0	0	0	0	0	0	6		
					10	-200	210	-790	210	-400	-480	0	0	0	0	0	3	4		
						-210	200	-800	200	-410	-490	0	0	0	0	0	2	4		
							410	-590	410	-200	-280	0	0	0	0	0	2	3		
								-1000	0	-610	-690	0	0	0	0	0	0	3		
									1000	390	310	0	0	0	0	0	3	0		
										-610	-690	0	0	0	0	0	0	2		
											-80	0	0	0	0	0	0	1		
												0	0	0	0	0	0	0		
													0	0	0	0	0	0		
														0	0	0	0	0		
															0	0	0	0		
																0	0	0		
																	0	0		
																		SUM	11	57



Mann-Kendall Trend Statistic (S)
-46
Significant Trend
Downward
Coefficient of Variance
0.43 Stable

Well: MW-3
Analyte: MtBE

MW-3	MtBE		
Date	Raw	Value	Index
Dec-10	1.6	1.6	1
Jun-11	1	1	2
Dec-11	1	1	3
Jun-12	9.72	9.72	4
Nov-13	7.9	7.9	5
Jun-14	5.4	5.4	6
Jun-15	7.3	7.3	7
Dec-15	7.5	7.5	8
Jun-16	5.7	5.7	9
Dec-16	5.5	5.5	10
Jun-17	6.2	6.2	11
Dec-17	3.3	3.3	12
May-18	3.5	3.5	13
Nov-18	5.3	5.3	14
Jun-19	4.1	4.1	15
		0	
		0	
		0	

[illegible]

Mann-Kendall Trend Statistic (S)
-6
Significant Trend
Insignificant
Coefficient of Variance
0.52
Stable

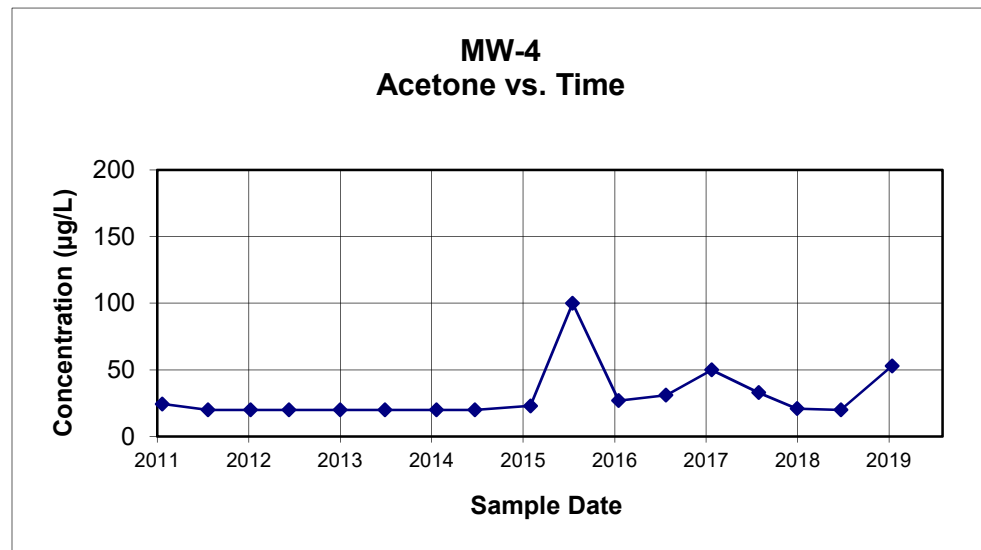
MANN-KENDALL TEST FOR TREND

Well: MW-4

Analyte: ACETONE

MW-4	Acetone		
Date	Raw	Value	Index
Dec-10	30	30	1
Jun-11	24.5	24.5	2
Dec-11	20	20	3
Jun-12	20	20	4
Nov-12	20	20	5
May-13	20	20	6
Nov-13	20	20	7
Jun-14	20	20	8
Nov-14	20	20	9
Jun-15	23	23	10
Dec-15	100	100	11
Jun-16	27	27	12
Dec-16	31	31	13
Jun-17	50	50	14
Dec-17	33	33	15
May-18	21	21	16
Nov-18	20	20	17
Jun-19	53	53	18

Calculation Matrix																+	-	
-6	-10	-10	-10	-10	-10	-10	-10	-7	70	-3	1	20	3	-9	-10	23	5	12
	-5	-5	-5	-5	-5	-5	-5	-2	76	3	7	26	9	-4	-5	29	6	10
		0	0	0	0	0	0	3	80	7	11	30	13	1	0	33	8	0
			0	0	0	0	0	3	80	7	11	30	13	1	0	33	8	0
				0	0	0	0	3	80	7	11	30	13	1	0	33	8	0
					0	0	0	3	80	7	11	30	13	1	0	33	8	0
						0	0	3	80	7	11	30	13	1	0	33	8	0
							0	3	80	7	11	30	13	1	0	33	8	0
								3	80	7	11	30	13	1	0	33	8	0
									77	4	8	27	10	-2	-3	30	6	2
										-73	-69	-50	-67	-79	-80	-47	0	7
											4	23	6	-6	-7	26	4	2
												19	2	-10	-11	22	3	2
													-17	-29	-30	3	1	3
														-12	-13	20	1	2
															-1	32	1	1
																33	1	0
																SUM	84	41



Mann-Kendall Trend Statistic (S)
43
Significant Trend
Insignificant
Coefficient of Variance
0.65
Stable

MANN-KENDALL TEST FOR TREND

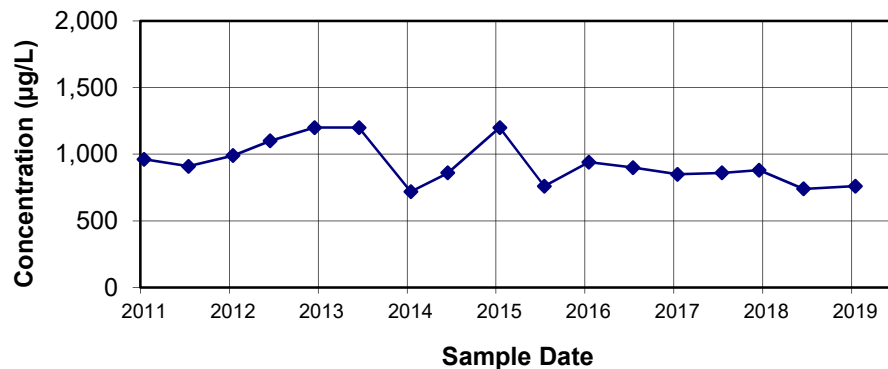
Well: MW-4

Analyte: tert-Butyl Alcohol

MW-4	tert-Butyl Alcohol		
Date	Raw	Value	Index
Dec-10	1000	1000	1
Jun-11	962	962	2
Dec-11	909	909	3
Jun-12	990	990	4
Nov-12	1100	1100	5
May-13	1200	1200	6
Nov-13	1200	1200	7
Jun-14	720	720	8
Nov-14	860	860	9
Jun-15	1200	1200	10
Dec-15	760	760	11
Jun-16	940	940	12
Dec-16	900	900	13
Jun-17	850	850	14
Dec-17	860	860	15
May-18	880	880	16
Nov-18	740	740	17
Jun-19	760	760	18

Calculation Matrix																	+	-	
-38	-91	-10	100	200	200	-280	-140	200	-240	-60	-100	-150	-140	-120	-260	-240	4	13	
	-53	28	138	238	238	-242	-102	238	-202	-22	-62	-112	-102	-82	-222	-202	5	11	
		81	191	291	291	-189	-49	291	-149	31	-9	-59	-49	-29	-169	-149	6	9	
			110	210	210	-270	-130	210	-230	-50	-90	-140	-130	-110	-250	-230	4	10	
				100	100	-380	-240	100	-340	-160	-200	-250	-240	-220	-360	-340	3	10	
					0	-480	-340	0	-440	-260	-300	-350	-340	-320	-460	-440	0	10	
						-480	-340	0	-440	-260	-300	-350	-340	-320	-460	-440	0	10	
							140	480	40	220	180	130	140	160	20	40	10	0	
								340	-100	80	40	-10	0	20	-120	-100	4	4	
									-440	-260	-300	-350	-340	-320	-460	-440	0	8	
										180	140	90	100	120	-20	0	5	1	
											-40	-90	-80	-60	-200	-180	0	6	
												-50	-40	-20	-160	-140	0	5	
													10	30	-110	-90	2	2	
														20	-120	-100	1	2	
															-140	-120	0	2	
																20	1	0	
																	SUM	45	103

MW-4
tert-Butyl Alcohol vs. Time



**Mann-Kendall
Trend Statistic (S)**

-58

**Significant
Trend**

Downward

Coefficient of Variance

**0.17
Stable**

MANN-KENDALL TEST FOR TREND

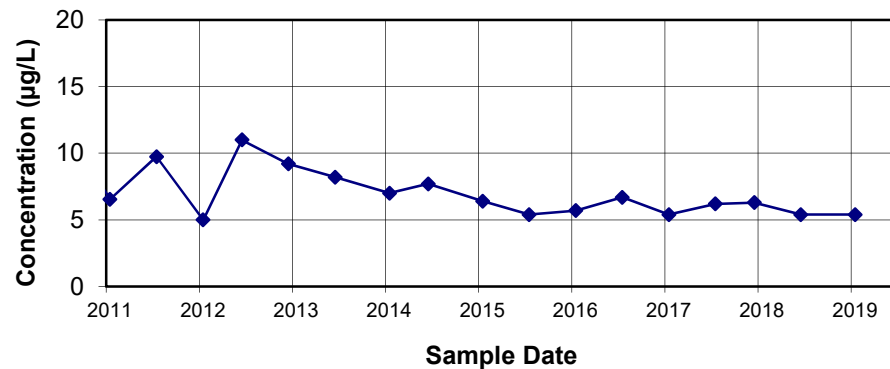
Well: MW-4

Analyte: Diisopropyl ether

MW-4	Diisopropyl ether		
Date	Raw	Value	Index
Dec-10	12	12	1
Jun-11	6.55	6.55	2
Dec-11	9.74	9.74	3
Jun-12	5	5	4
Nov-12	11	11	5
May-13	9.2	9.2	6
Nov-13	8.2	8.2	7
Jun-14	7	7	8
Nov-14	7.7	7.7	9
Jun-15	6.4	6.4	10
Dec-15	5.4	5.4	11
Jun-16	5.7	5.7	12
Dec-16	6.7	6.7	13
Jun-17	5.4	5.4	14
Dec-17	6.2	6.2	15
May-18	6.3	6.3	16
Nov-18	5.4	5.4	17
Jun-19	5.4	5.4	18

Calculation Matrix																	+	-	
-5	-2	-7	-1	-3	-4	-5	-4	-6	-7	-6	-5	-7	-6	-6	-7	-7	0	17	
	3	-2	4	3	2	0	1	0	-1	-1	0	-1	0	0	-1	-1	7	9	
		-5	1	-1	-2	-3	-2	-3	-4	-4	-3	-4	-4	-3	-4	-4	1	14	
			6	4	3	2	3	1	0	1	2	0	1	1	0	0	14	0	
				-2	-3	-4	-3	-5	-6	-5	-4	-6	-5	-5	-6	-6	0	13	
					-1	-2	-2	-3	-4	-4	-3	-4	-3	-3	-4	-4	0	12	
						-1	0	-2	-3	-3	-2	-3	-2	-2	-3	-3	0	11	
							1	-1	-2	-1	0	-2	-1	-1	-2	-2	1	9	
								-1	-2	-2	-1	-2	-2	-1	-2	-2	0	9	
									-1	-1	0	-1	0	0	-1	-1	1	7	
										0	1	0	1	1	0	0	4	0	
											1	0	1	1	0	0	3	3	
												-1	-1	0	-1	-1	0	5	
													1	1	0	0	2	0	
														0	-1	-1	1	2	
															-1	-1	0	2	
																0	0	0	
																	SUM	34	113

MW-4
Diisopropyl ether vs. Time



Mann-Kendall
Trend Statistic (S)

-79

Significant
Trend

Downward

Coefficient of Variance

0.29
Stable

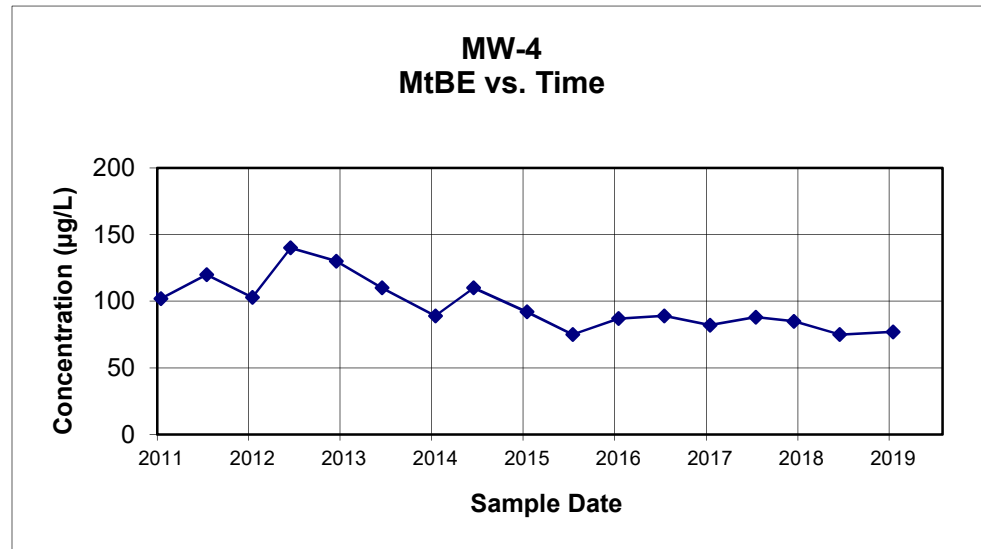
MANN-KENDALL TEST FOR TREND

Well: MW-4

Analyte: MtBE

MW-4	MtBE		
	Raw	Value	Index
Dec-10	140	140	1
Jun-11	102	102	2
Dec-11	120	120	3
Jun-12	103	103	4
Nov-12	140	140	5
May-13	130	130	6
Nov-13	110	110	7
Jun-14	89	89	8
Nov-14	110	110	9
Jun-15	92	92	10
Dec-15	75	75	11
Jun-16	87	87	12
Dec-16	89	89	13
Jun-17	82	82	14
Dec-17	88	88	15
May-18	85	85	16
Nov-18	75	75	17
Jun-19	77	77	18

Calculation Matrix																	+	-
-38	-20	-37	0	-10	-30	-51	-30	-48	-65	-53	-51	-58	-52	-55	-65	-63	0	16
	18	1	38	28	8	-13	8	-10	-27	-15	-13	-20	-14	-17	-27	-25	6	10
		-17	20	10	-10	-31	-10	-28	-45	-33	-31	-38	-32	-35	-45	-43	2	13
			37	27	7	-14	7	-11	-28	-16	-14	-21	-15	-18	-28	-26	4	10
				-10	-30	-51	-30	-48	-65	-53	-51	-58	-52	-55	-65	-63	0	13
					-20	-41	-20	-38	-55	-43	-41	-48	-42	-45	-55	-53	0	12
						-21	0	-18	-35	-23	-21	-28	-22	-25	-35	-33	0	10
							21	3	-14	-2	0	-7	-1	-4	-14	-12	2	7
								-18	-35	-23	-21	-28	-22	-25	-35	-33	0	9
									-17	-5	-3	-10	-4	-7	-17	-15	0	8
										12	14	7	13	10	0	2	6	0
											2	-5	1	-2	-12	-10	2	4
												-7	-1	-4	-14	-12	0	5
													6	3	-7	-5	2	2
														-3	-13	-11	0	3
															-10	-8	0	2
																2	1	0
																SUM	25	124



Mann-Kendall Trend Statistic (S)
-99
Significant Trend
Downward
Coefficient of Variance
0.21 Stable

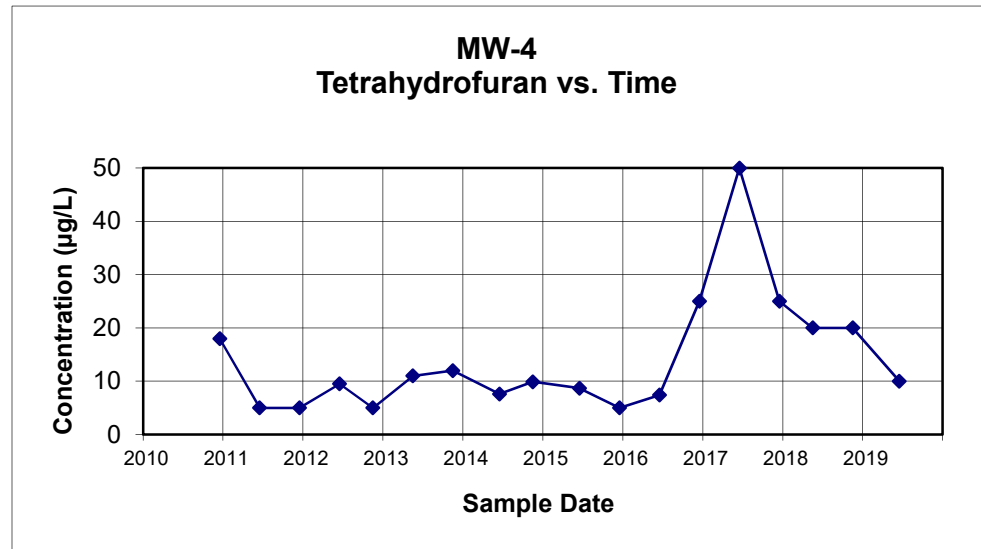
MANN-KENDALL TEST FOR TREND

Well: MW-4

Analyte: Tetrahydrofuran

MW-4	Tetrahydrofuran		
Date	Raw	Value	Index
Dec-10	18	18	1
Jun-11	5	5	2
Dec-11	5	5	3
Jun-12	9.51	9.51	4
Nov-12	5	5	5
May-13	11	11	6
Nov-13	12	12	7
Jun-14	7.6	7.6	8
Nov-14	9.9	9.9	9
Jun-15	8.7	8.7	10
Dec-15	5	5	11
Jun-16	7.4	7.4	12
Dec-16	25	25	13
Jun-17	50	50	14
Dec-17	25	25	15
May-18	20	20	16
Nov-18	20	20	17
Jun-19	10	10	18

Calculation Matrix																	+	-
-13	-13	-8	-13	-7	-6	-10	-8	-9	-13	-11	7	32	7	2	2	-8	5	12
	0	5	0	6	7	3	5	4	0	2	20	45	20	15	15	5	13	0
		5	0	6	7	3	5	4	0	2	20	45	20	15	15	5	13	0
			-5	1	2	-2	0	-1	-5	-2	15	40	15	10	10	0	9	5
				6	7	3	5	4	0	2	20	45	20	15	15	5	12	0
					1	-3	-1	-2	-6	-4	14	39	14	9	9	-1	6	6
						-4	-2	-3	-7	-5	13	38	13	8	8	-2	5	6
							2	1	-3	0	17	42	17	12	12	2	8	2
								-1	-5	-3	15	40	15	10	10	0	6	3
									-4	-1	16	41	16	11	11	1	6	2
										2	20	45	20	15	15	5	7	0
											18	43	18	13	13	3	6	0
												25	0	-5	-5	-15	1	3
													-25	-30	-30	-40	0	4
														-5	-5	-15	0	3
															0	-10	0	1
																-10	0	1
																SUM	97	48



Mann-Kendall Trend Statistic (S)
49
Significant Trend
Insignificant
Coefficient of Variance
0.79
Stable

Analyte: Diesel Range Organics

Mann-Kendall Trend Statistic (S)
25
Significant Trend
Insignificant
Coefficient of Variance
0.25
Stable

MANN-KENDALL TEST FOR TREND

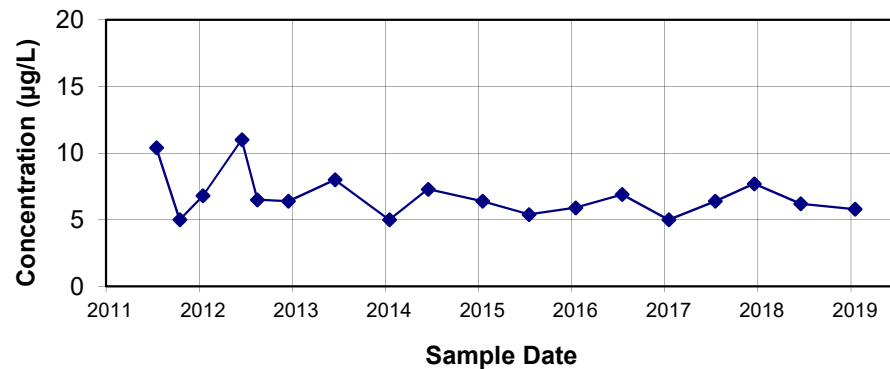
Well: MW-5

Analyte: Diisopropyl ether

MW-5	Diisopropyl ether		
Date	Raw	Value	Index
Dec-11	10.4	10.4	1
Mar-12	5	5	2
Jun-12	6.8	6.8	3
Nov-12	11	11	4
Jan-13	6.5	6.5	5
May-13	6.4	6.4	6
Nov-13	8	8	7
Jun-14	5	5	8
Nov-14	7.3	7.3	9
Jun-15	6.4	6.4	10
Dec-15	5.4	5.4	11
Jun-16	5.9	5.9	12
Dec-16	6.9	6.9	13
Jun-17	5	5	14
Dec-17	6.4	6.4	15
May-18	7.7	7.7	16
Nov-18	6.2	6.2	17
Jun-19	5.8	5.8	18

Calculation Matrix																	+	-	
-5	-4	1	-4	-4	-2	-5	-3	-4	-5	-5	-4	-5	-4	-3	-4	-5	1	16	
	2	6	2	1	3	0	2	1	0	1	2	0	1	3	1	1	14	0	
		4	0	0	1	-2	1	0	-1	-1	0	-2	0	1	-1	-1	5	10	
			-5	-5	-3	-6	-4	-5	-6	-5	-4	-6	-5	-3	-5	-5	0	14	
				0	2	-2	1	0	-1	-1	0	-2	0	1	0	-1	4	9	
					2	-1	1	0	-1	-1	1	-1	0	1	0	-1	4	6	
						-3	-1	-2	-3	-2	-1	-3	-2	0	-2	-2	0	11	
							2	1	0	1	2	0	1	3	1	1	9	0	
								-1	-2	-1	0	-2	-1	0	-1	-2	1	8	
									-1	-1	1	-1	0	1	0	-1	2	5	
										1	2	0	1	2	1	0	6	1	
											1	-1	1	2	0	0	4	2	
												-2	-1	1	-1	-1	1	4	
													1	3	1	1	4	0	
														1	0	-1	1	2	
															-2	-2	0	2	
																0	0	1	
																	SUM	56	91

MW-5
Diisopropyl ether vs. Time



Mann-Kendall
Trend Statistic (S)

-35

Significant
Trend

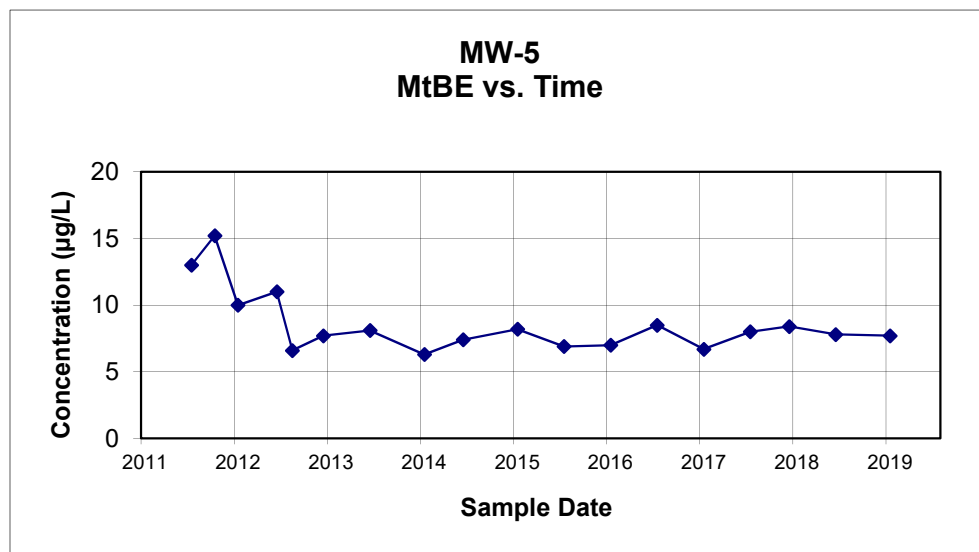
Insignificant

Coefficient of Variance

0.25
Stable

Well: MW-5
Analyte: MtBE

MW-5	MtBE		
Date	Raw	Value	Index
Dec-11	13	13	1
Mar-12	15.2	15.2	2
Jun-12	10	10	3
Nov-12	11	11	4
Jan-13	6.6	6.6	5
May-13	7.7	7.7	6
Nov-13	8.1	8.1	7
Jun-14	6.3	6.3	8
Nov-14	7.4	7.4	9
Jun-15	8.2	8.2	10
Dec-15	6.9	6.9	11
Jun-16	7	7	12
Dec-16	8.5	8.5	13
Jun-17	6.7	6.7	14
Dec-17	8	8	15
May-18	8.4	8.4	16
Nov-18	7.8	7.8	17
Jun-19	7.7	7.7	18

[illegible]

Mann-Kendall Trend Statistic (S)
-38
Significant Trend
Insignificant
Coefficient of Variance
0.27
Stable

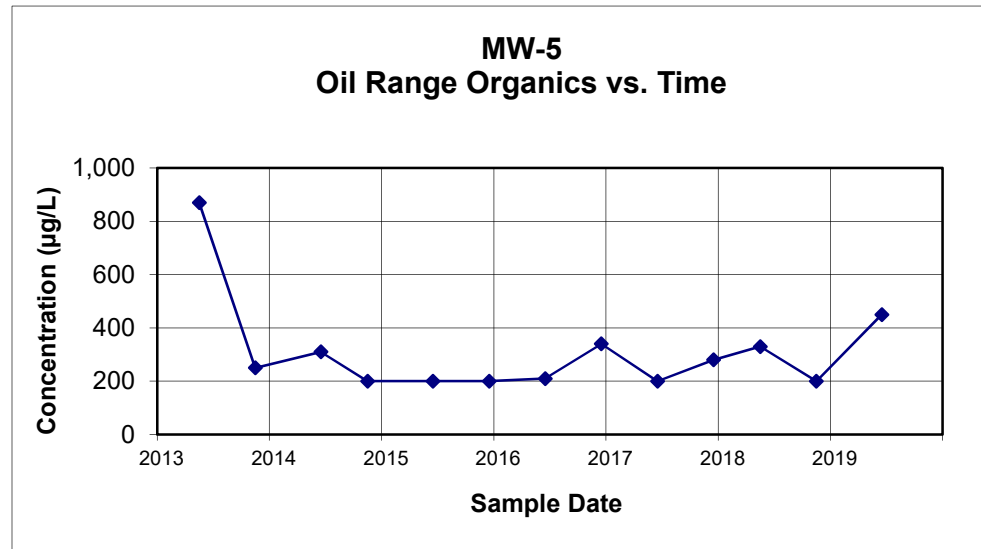
MANN-KENDALL TEST FOR TREND

Well: MW-5

Analyte: Oil Range Organics

MW-5	Oil Range Organics		
Date	Raw	Value	Index
May-13	870	870	1
Nov-13	250	250	2
Jun-14	310	310	3
Nov-14	200	200	4
Jun-15	200	200	5
Dec-15	200	200	6
Jun-16	210	210	7
Dec-16	340	340	8
Jun-17	200	200	9
Dec-17	280	280	10
May-18	330	330	11
Nov-18	200	200	12
Jun-19	450	450	13
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-		
-620	-560	-670	-670	-670	-660	-530	-670	-590	-540	-670	-420	0	0	0	0	0	0	12		
	60	-50	-50	-50	-40	90	-50	30	80	-50	200	0	0	0	0	0	5	6		
		-110	-110	-110	-100	30	-110	-30	20	-110	140	0	0	0	0	0	3	7		
			0	0	10	140	0	80	130	0	250	0	0	0	0	0	5	0		
				0	10	140	0	80	130	0	250	0	0	0	0	0	5	0		
					10	140	0	80	130	0	250	0	0	0	0	0	5	0		
						130	-10	70	120	-10	240	0	0	0	0	0	4	2		
							-140	-60	-10	-140	110	0	0	0	0	0	1	4		
								80	130	0	250	0	0	0	0	0	3	0		
									50	-80	170	0	0	0	0	0	2	1		
										-130	120	0	0	0	0	0	1	1		
											250	0	0	0	0	0	1	0		
												0	0	0	0	0	0	0		
													0	0	0	0	0	0		
														0	0	0	0	0		
															0	0	0	0		
																0	0	0		
																	0	0		
																		SUM	35	33



Mann-Kendall Trend Statistic (S)
2
Significant Trend
Insignificant
Coefficient of Variance
0.59
Stable

MANN-KENDALL TEST FOR TREND

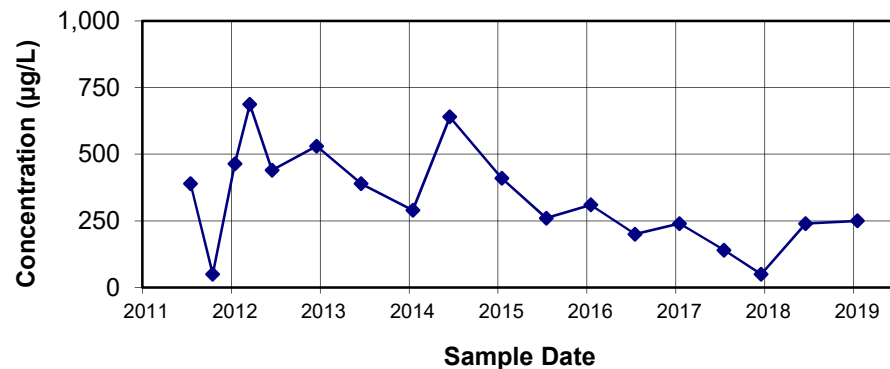
Well: MW-6

Analyte: tert-Butyl Alcohol

MW-6	tert-Butyl Alcohol		
Date	Raw	Value	Index
Dec-11	390	390	1
Mar-12	50	50	2
Jun-12	464	464	3
Aug-12	687	687	4
Nov-12	440	440	5
May-13	530	530	6
Nov-13	390	390	7
Jun-14	290	290	8
Nov-14	640	640	9
Jun-15	410	410	10
Dec-15	260	260	11
Jun-16	310	310	12
Dec-16	200	200	13
Jun-17	240	240	14
Dec-17	140	140	15
May-18	50	50	16
Nov-18	240	240	17
Jun-19	250	250	18

Calculation Matrix																	+	-	
-340	74	297	50	140	0	-100	250	20	-130	-80	-190	-150	-250	-340	-150	-140	6	10	
	414	637	390	480	340	240	590	360	210	260	150	190	90	0	190	200	15	0	
		223	-24	66	-74	-174	176	-54	-204	-154	-264	-224	-324	-414	-224	-214	3	12	
			-247	-157	-297	-397	-47	-277	-427	-377	-487	-447	-547	-637	-447	-437	0	14	
				90	-50	-150	200	-30	-180	-130	-240	-200	-300	-390	-200	-190	2	11	
					-140	-240	110	-120	-270	-220	-330	-290	-390	-480	-290	-280	1	11	
						-100	250	20	-130	-80	-190	-150	-250	-340	-150	-140	2	9	
							350	120	-30	20	-90	-50	-150	-240	-50	-40	3	7	
								-230	-380	-330	-440	-400	-500	-590	-400	-390	0	9	
									-150	-100	-210	-170	-270	-360	-170	-160	0	8	
										50	-60	-20	-120	-210	-20	-10	1	6	
											-110	-70	-170	-260	-70	-60	0	6	
												40	-60	-150	40	50	3	2	
													-100	-190	0	10	1	2	
														-90	100	110	2	1	
															190	200	2	0	
																10	1	0	
																	SUM	42	108

MW-6
tert-Butyl Alcohol vs. Time



**Mann-Kendall
Trend Statistic (S)**

-66

**Significant
Trend**

Downward

Coefficient of Variance

**0.54
Stable**

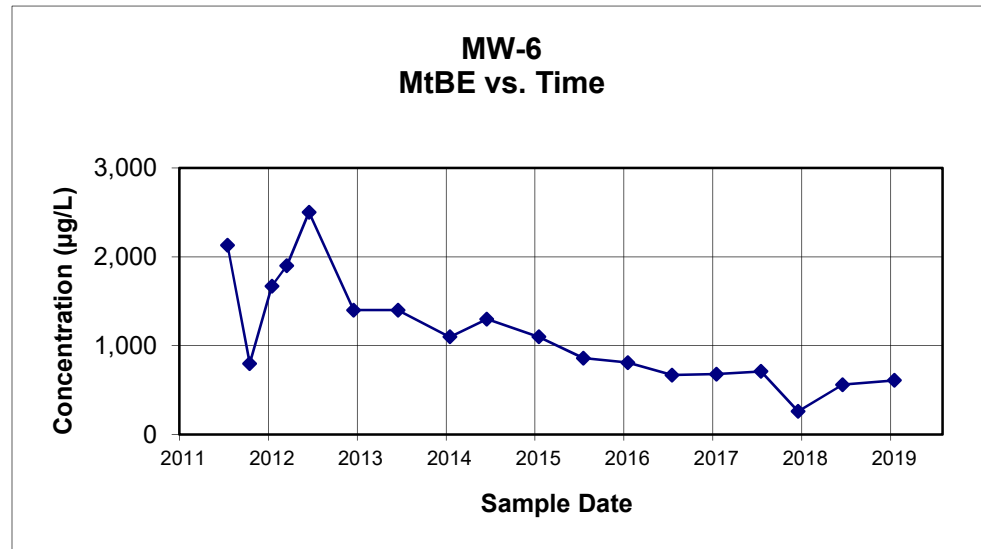
MANN-KENDALL TEST FOR TREND

Well: MW-6

Analyte: MtBE

MW-6	MtBE		
	Raw	Value	Index
Dec-11	2130	2130	1
Mar-12	798	798	2
Jun-12	1670	1670	3
Aug-12	1900	1900	4
Nov-12	2500	2500	5
May-13	1400	1400	6
Nov-13	1400	1400	7
Jun-14	1100	1100	8
Nov-14	1300	1300	9
Jun-15	1100	1100	10
Dec-15	860	860	11
Jun-16	810	810	12
Dec-16	670	670	13
Jun-17	680	680	14
Dec-17	710	710	15
May-18	260	260	16
Nov-18	560	560	17
Jun-19	610	610	18

Calculation Matrix																	+	-	
-1332	-460	-230	370	-730	-730	-1030	-830	-1030	-1270	-1320	-1460	-1450	-1420	-1870	-1570	-1520	1	16	
	872	1102	1702	602	602	302	502	302	62	12	-128	-118	-88	-538	-238	-188	10	6	
		230	830	-270	-270	-570	-370	-570	-810	-860	-1000	-990	-960	-1410	-1110	-1060	2	13	
			600	-500	-500	-800	-600	-800	-1040	-1090	-1230	-1220	-1190	-1640	-1340	-1290	1	13	
				-1100	-1100	-1400	-1200	-1400	-1640	-1690	-1830	-1820	-1790	-2240	-1940	-1890	0	13	
					0	-300	-100	-300	-540	-590	-730	-720	-690	-1140	-840	-790	0	11	
						-300	-100	-300	-540	-590	-730	-720	-690	-1140	-840	-790	0	11	
							200	0	-240	-290	-430	-420	-390	-840	-540	-490	1	8	
								-200	-440	-490	-630	-620	-590	-1040	-740	-690	0	9	
									-240	-290	-430	-420	-390	-840	-540	-490	0	8	
										-50	-190	-180	-150	-600	-300	-250	0	7	
											-140	-130	-100	-550	-250	-200	0	6	
												10	40	-410	-110	-60	2	3	
													30	-420	-120	-70	1	3	
														-450	-150	-100	0	3	
															300	350	2	0	
																50	1	0	
																	SUM	21	130



Mann-Kendall Trend Statistic (S)
-109
Significant Trend
Downward
Coefficient of Variance
0.53 Stable

Analyte: Oil Range Organics

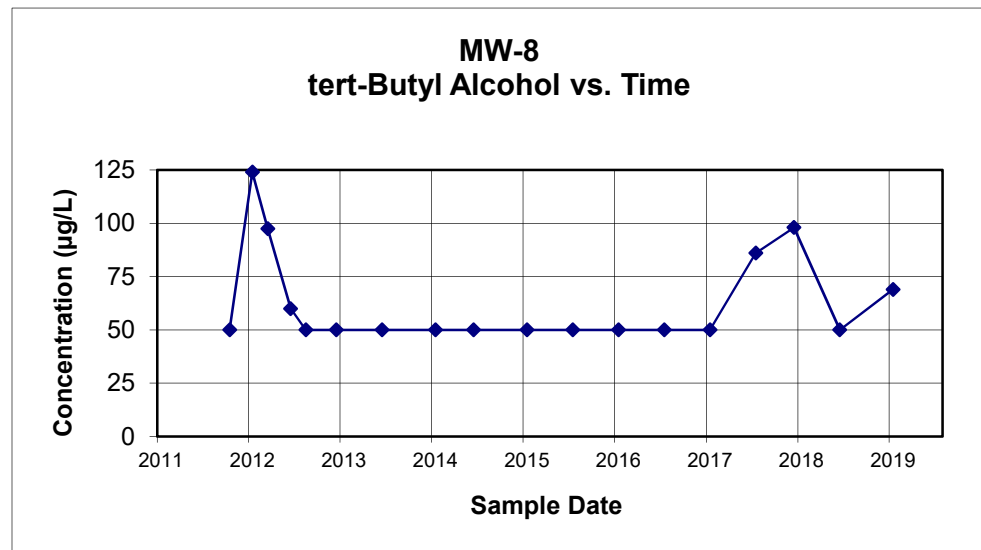
MANN-KENDALL TEST FOR TREND

Well: MW-8

Analyte: tert-Butyl Alcohol

MW-8	tert-Butyl Alcohol		
Date	Raw	Value	Index
Mar-12	50	50	1
Jun-12	124	124	2
Aug-12	97.5	97.5	3
Nov-12	60	60	4
Jan-13	50	50	5
May-13	50	50	6
Nov-13	50	50	7
Jun-14	50	50	8
Nov-14	50	50	9
Jun-15	50	50	10
Dec-15	50	50	11
Jun-16	50	50	12
Dec-16	50	50	13
Jun-17	50	50	14
Dec-17	86	86	15
May-18	98	98	16
Nov-18	50	50	17
Jun-19	69	69	18

Calculation Matrix																	+	-
74	48	10	0	0	0	0	0	0	0	0	0	0	36	48	0	19	6	0
	-27	-64	-74	-74	-74	-74	-74	-74	-74	-74	-74	-74	-38	-26	-74	-55	0	16
		-38	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-12	1	-48	-29	1	14
			-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	26	38	-10	9	3	11
				0	0	0	0	0	0	0	0	0	36	48	0	19	3	0
					0	0	0	0	0	0	0	0	36	48	0	19	3	0
						0	0	0	0	0	0	0	36	48	0	19	3	0
							0	0	0	0	0	0	36	48	0	19	3	0
								0	0	0	0	0	36	48	0	19	3	0
									0	0	0	0	36	48	0	19	3	0
										0	0	0	36	48	0	19	3	0
											0	0	36	48	0	19	3	0
												0	36	48	0	19	3	0
													36	48	0	19	3	0
														36	48	0	19	3
															12	-36	-17	1
																-48	-29	0
																	19	1
																	SUM	42
																		45



Mann-Kendall Trend Statistic (S)
-3
Significant Trend
Insignificant
Coefficient of Variance
0.36
Stable

MANN-KENDALL TEST FOR TREND

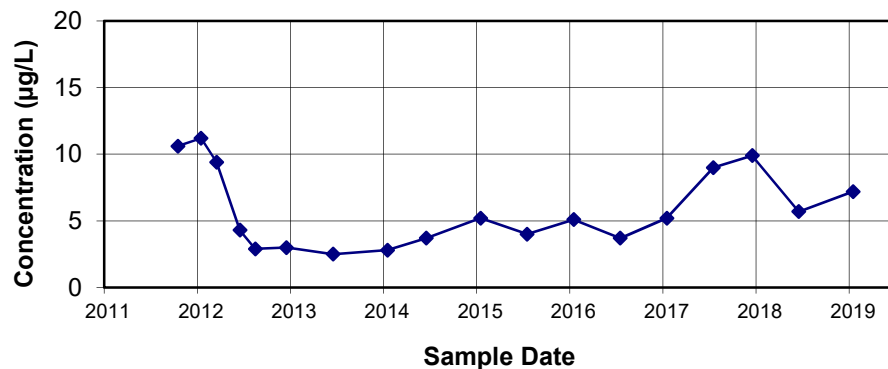
Well: MW-8

Analyte: MtBE

MW-8	MtBE		
	Raw	Value	Index
Mar-12	10.6	10.6	1
Jun-12	11.2	11.2	2
Aug-12	9.4	9.4	3
Nov-12	4.3	4.3	4
Jan-13	2.9	2.9	5
May-13	3	3	6
Nov-13	2.5	2.5	7
Jun-14	2.8	2.8	8
Nov-14	3.7	3.7	9
Jun-15	5.2	5.2	10
Dec-15	4	4	11
Jun-16	5.1	5.1	12
Dec-16	3.7	3.7	13
Jun-17	5.2	5.2	14
Dec-17	9	9	15
May-18	9.9	9.9	16
Nov-18	5.7	5.7	17
Jun-19	7.2	7.2	18

Calculation Matrix																	+	-	
1	-1	-6	-8	-8	-8	-8	-7	-5	-7	-6	-7	-5	-2	-1	-5	-3	1	16	
	-2	-7	-8	-8	-9	-8	-8	-6	-7	-6	-8	-6	-2	-1	-6	-4	0	16	
		-5	-7	-6	-7	-7	-6	-4	-5	-4	-6	-4	0	1	-4	-2	1	14	
			-1	-1	-2	-2	-1	1	0	1	-1	1	5	6	1	3	7	7	
				0	0	0	1	2	1	2	1	2	6	7	3	4	11	2	
					-1	0	1	2	1	2	1	2	6	7	3	4	10	2	
						0	1	3	2	3	1	3	7	7	3	5	11	0	
							1	2	1	2	1	2	6	7	3	4	10	0	
								2	0	1	0	2	5	6	2	4	8	0	
									-1	0	-2	0	4	5	1	2	4	3	
										1	0	1	5	6	2	3	6	1	
											-1	0	4	5	1	2	5	1	
												2	5	6	2	4	5	0	
													4	5	1	2	4	0	
														1	-3	-2	1	2	
															-4	-3	0	2	
																2	1	0	
																	SUM	85	66

MW-8
MtBE vs. Time



Mann-Kendall
Trend Statistic (S)

19

Significant
Trend

Insignificant

Coefficient of Variance

0.50
Stable

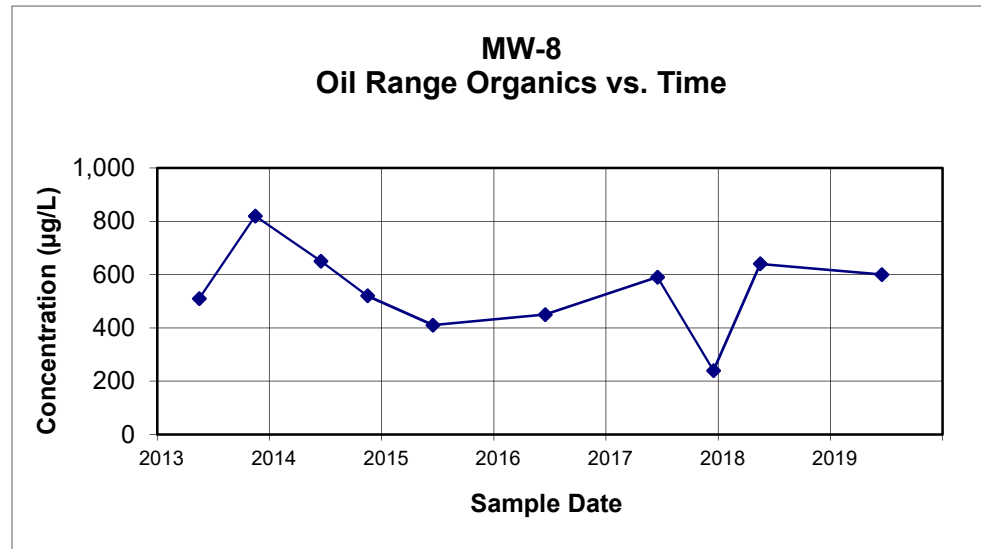
MANN-KENDALL TEST FOR TREND

Well: MW-8

Analyte: Oil Range Organics

MW-8	Oil Range Organics		
Date	Raw	Value	Index
May-13	510	510	1
Nov-13	820	820	2
Jun-14	650	650	3
Nov-14	520	520	4
Jun-15	410	410	5
Jun-16	450	450	6
Jun-17	590	590	7
Dec-17	240	240	8
May-18	640	640	9
Jun-19	600	600	10
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
310	140	10	-100	-60	80	-270	130	90	0	0	0	0	0	0	0	0	6	3
	-170	-300	-410	-370	-230	-580	-180	-220	0	0	0	0	0	0	0	0	0	8
		-130	-240	-200	-60	-410	-10	-50	0	0	0	0	0	0	0	0	0	7
			-110	-70	70	-280	120	80	0	0	0	0	0	0	0	0	3	3
				40	180	-170	230	190	0	0	0	0	0	0	0	0	4	1
					140	-210	190	150	0	0	0	0	0	0	0	0	3	1
						-350	50	10	0	0	0	0	0	0	0	0	2	1
							400	360	0	0	0	0	0	0	0	0	2	0
								-40	0	0	0	0	0	0	0	0	0	1
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
																0	0	0
																	0	0
																		SUM
																	20	25



Mann-Kendall Trend Statistic (S)
-5
Significant Trend
Insignificant
Coefficient of Variance
0.29
Stable

MANN-KENDALL TEST FOR TREND

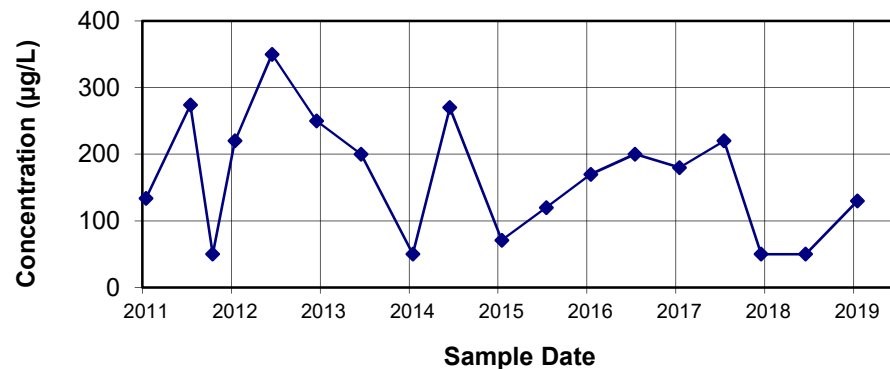
Well: MW-9

Analyte: tert-Butyl Alcohol

MW-9	tert-Butyl Alcohol		
Date	Raw	Value	Index
Jun-11	134	134	1
Dec-11	274	274	2
Mar-12	50	50	3
Jun-12	220	220	4
Nov-12	350	350	5
May-13	250	250	6
Nov-13	200	200	7
Jun-14	50	50	8
Nov-14	270	270	9
Jun-15	71	71	10
Dec-15	120	120	11
Jun-16	170	170	12
Dec-16	200	200	13
Jun-17	180	180	14
Dec-17	220	220	15
May-18	50	50	16
Nov-18	50	50	17
Jun-19	130	130	18

Calculation Matrix																	+	-
140	-84	86	216	116	66	-84	136	-63	-14	36	66	46	86	-84	-84	-4	10	7
	-224	-54	76	-24	-74	-224	-4	-203	-154	-104	-74	-94	-54	-224	-224	-144	1	15
		170	300	200	150	0	220	21	70	120	150	130	170	0	0	80	12	0
			130	30	-20	-170	50	-149	-100	-50	-20	-40	0	-170	-170	-90	3	10
				-100	-150	-300	-80	-279	-230	-180	-150	-170	-130	-300	-300	-220	0	13
					-50	-200	20	-179	-130	-80	-50	-70	-30	-200	-200	-120	1	11
						-150	70	-129	-80	-30	0	-20	20	-150	-150	-70	2	8
							220	21	70	120	150	130	170	0	0	80	8	0
								-199	-150	-100	-70	-90	-50	-220	-220	-140	0	9
									49	99	129	109	149	-21	-21	59	6	2
										50	80	60	100	-70	-70	10	5	2
											30	10	50	-120	-120	-40	3	3
												-20	20	-150	-150	-70	1	4
													40	-130	-130	-50	1	3
														-170	-170	-90	0	3
															0	80	1	0
																80	1	0
																SUM	55	90

MW-9
tert-Butyl Alcohol vs. Time



Mann-Kendall
Trend Statistic (S)

-35

Significant
Trend

Insignificant

Coefficient of Variance

0.54
Stable

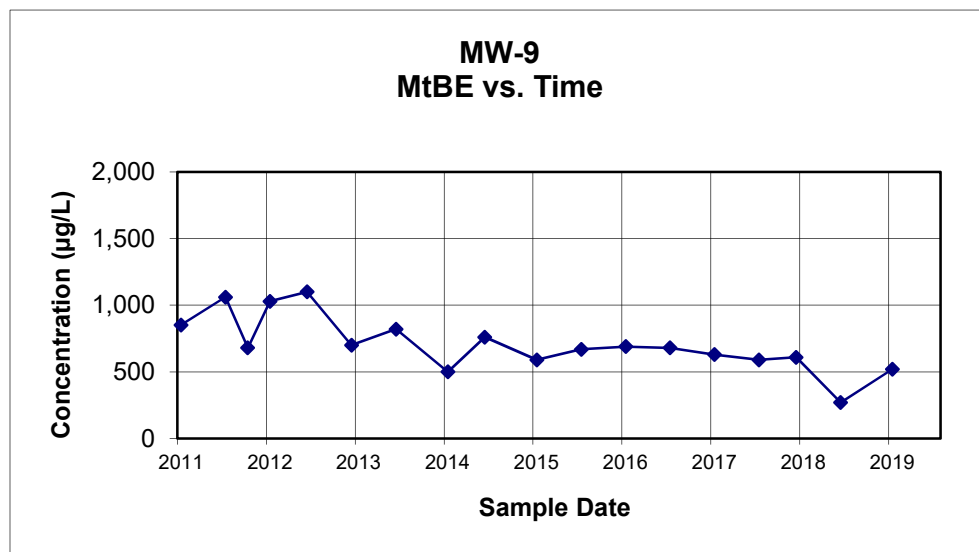
MANN-KENDALL TEST FOR TREND

Well: MW-9

Analyte: MtBE

MW-9	MtBE		
	Raw	Value	Index
Jun-11	852	852	1
Dec-11	1060	1060	2
Mar-12	680	680	3
Jun-12	1030	1030	4
Nov-12	1100	1100	5
May-13	700	700	6
Nov-13	820	820	7
Jun-14	500	500	8
Nov-14	760	760	9
Jun-15	590	590	10
Dec-15	670	670	11
Jun-16	690	690	12
Dec-16	680	680	13
Jun-17	630	630	14
Dec-17	590	590	15
May-18	610	610	16
Nov-18	270	270	17
Jun-19	520	520	18

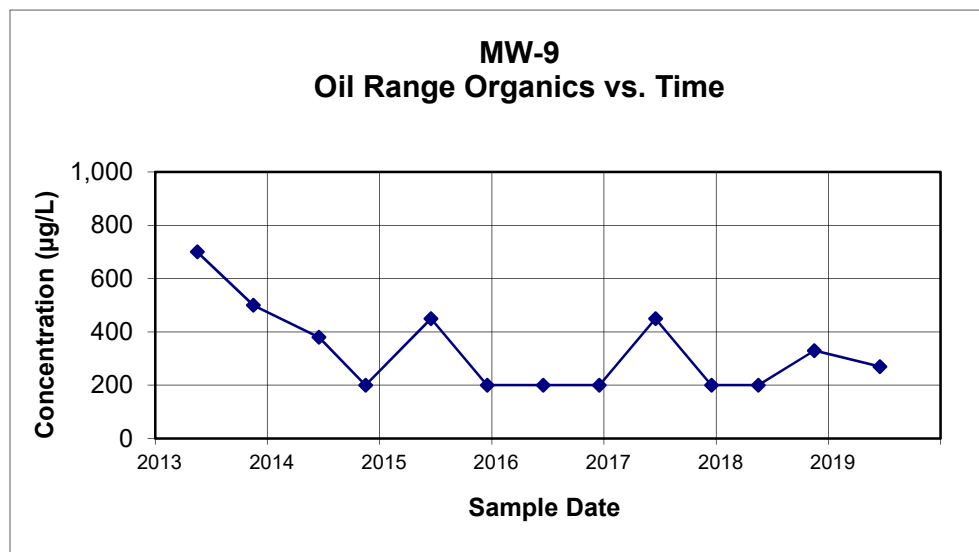
Calculation Matrix																	+	-	
208	-172	178	248	-152	-32	-352	-92	-262	-182	-162	-172	-222	-262	-242	-582	-332	3	14	
	-380	-30	40	-360	-240	-560	-300	-470	-390	-370	-380	-430	-470	-450	-790	-540	1	15	
		350	420	20	140	-180	80	-90	-10	10	0	-50	-90	-70	-410	-160	6	8	
			70	-330	-210	-530	-270	-440	-360	-340	-350	-400	-440	-420	-760	-510	1	13	
				-400	-280	-600	-340	-510	-430	-410	-420	-470	-510	-490	-830	-580	0	13	
					120	-200	60	-110	-30	-10	-20	-70	-110	-90	-430	-180	2	10	
						-320	-60	-230	-150	-130	-140	-190	-230	-210	-550	-300	0	11	
							260	90	170	190	180	130	90	110	-230	20	9	1	
								-170	-90	-70	-80	-130	-170	-150	-490	-240	0	9	
									80	100	90	40	0	20	-320	-70	5	2	
										20	10	-40	-80	-60	-400	-150	2	5	
											-10	-60	-100	-80	-420	-170	0	6	
												-50	-90	-70	-410	-160	0	5	
													-40	-20	-360	-110	0	4	
														20	-320	-70	1	2	
															-340	-90	0	2	
																250	1	0	
																	SUM	31	120



Mann-Kendall Trend Statistic (S)
-89
Significant Trend
Downward
Coefficient of Variance
0.29 Stable

Analyte: Oil Range Organics

MW-9	Oil Range Organics		
Date	Raw	Value	Index
May-13	700	700	1
Nov-13	500	500	2
Jun-14	380	380	3
Nov-14	200	200	4
Jun-15	450	450	5
Dec-15	200	200	6
Jun-16	200	200	7
Dec-16	200	200	8
Jun-17	450	450	9
Dec-17	200	200	10
May-18	200	200	11
Nov-18	330	330	12
Jun-19	270	270	13
		0	
		0	
		0	
		0	
		0	

[illegible]

Mann-Kendall Trend Statistic (S)
-24
Significant Trend
Insignificant
Coefficient of Variance
0.48
Stable

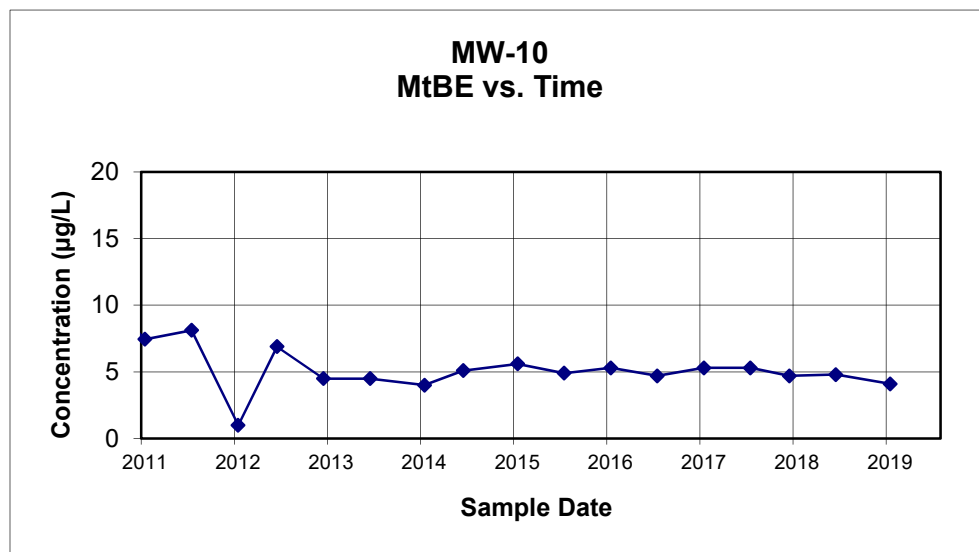
MANN-KENDALL TEST FOR TREND

Well: MW-10

Analyte: MtBE

MW-10	MtBE		
	Raw	Value	Index
Dec-10	11	11	1
Jun-11	7.45	7.45	2
Dec-11	8.12	8.12	3
Jun-12	1	1	4
Nov-12	6.9	6.9	5
May-13	4.5	4.5	6
Nov-13	4.5	4.5	7
Jun-14	4	4	8
Nov-14	5.1	5.1	9
Jun-15	5.6	5.6	10
Dec-15	4.9	4.9	11
Jun-16	5.3	5.3	12
Dec-16	4.7	4.7	13
Jun-17	5.3	5.3	14
Dec-17	5.3	5.3	15
May-18	4.7	4.7	16
Nov-18	4.8	4.8	17
Jun-19	4.1	4.1	18

Calculation Matrix																	+	-	
-4	-3	-10	-4	-7	-7	-7	-6	-5	-6	-6	-6	-6	-6	-6	-6	-7	0	17	
	1	-6	-1	-3	-3	-3	-2	-2	-3	-2	-3	-2	-2	-3	-3	-3	1	15	
		-7	-1	-4	-4	-4	-3	-3	-3	-3	-3	-3	-3	-3	-3	-4	0	15	
			6	4	4	3	4	5	4	4	4	4	4	4	4	3	14	0	
				-2	-2	-3	-2	-1	-2	-2	-2	-2	-2	-2	-2	-3	0	13	
					0	-1	1	1	0	1	0	1	1	0	0	0	9	2	
						-1	1	1	0	1	0	1	1	0	0	0	9	2	
							1	2	1	1	1	1	1	1	1	0	10	0	
								1	0	0	0	0	0	0	0	-1	4	5	
									-1	0	-1	0	0	-1	-1	-2	0	8	
										0	0	0	0	0	0	-1	3	4	
											-1	0	0	-1	-1	-1	0	4	
												1	1	0	0	-1	3	1	
													0	-1	-1	-1	0	3	
														-1	-1	-1	0	3	
															0	-1	1	1	
																-1	0	1	
																	SUM	54	94

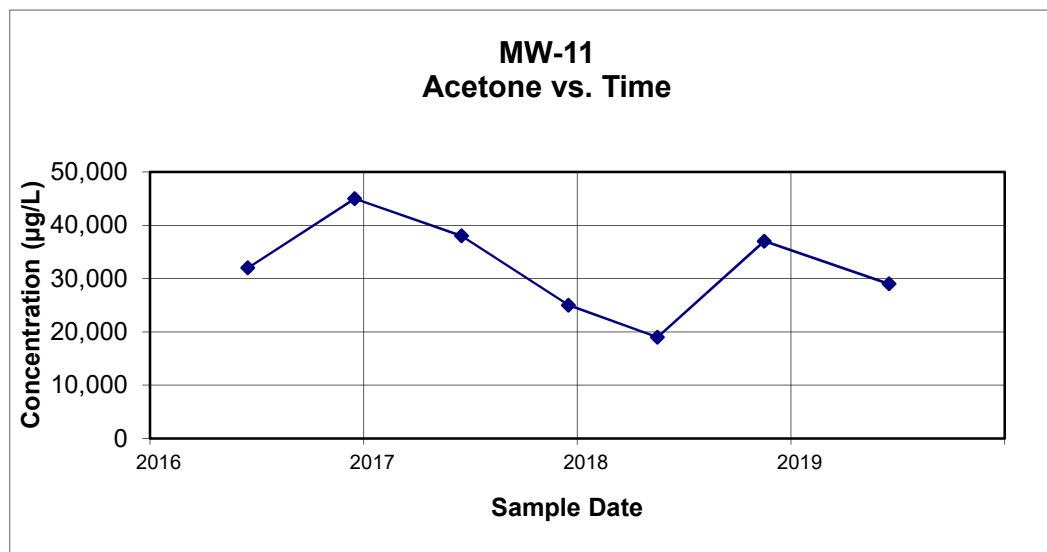


Mann-Kendall Trend Statistic (S)
-40
Significant Trend
Insignificant
Coefficient of Variance
0.38 Stable

Well: MW-11
Analyte: Acetone

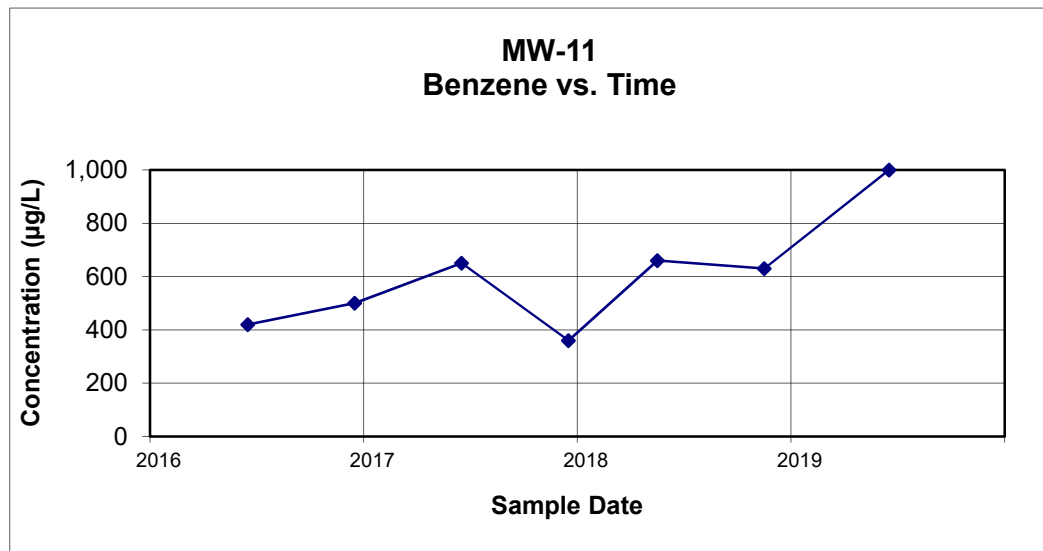
[illegible]

Calculation Matrix																	+	-
#####	6000	-7000	#####	5000	-3000	0	0	0	0	0	0	0	0	0	0	0	3	3
	-7000	#####	#####	-8000	#####	0	0	0	0	0	0	0	0	0	0	0	0	5
		#####	#####	-1000	-9000	0	0	0	0	0	0	0	0	0	0	0	0	4
			-6000	#####	4000	0	0	0	0	0	0	0	0	0	0	0	2	1
				#####	#####	0	0	0	0	0	0	0	0	0	0	0	2	0
					-8000	0	0	0	0	0	0	0	0	0	0	0	0	1
						0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
														0	0	0	0	
															0	0	0	
																SUM	7	14



Mann-Kendall Trend Statistic (S)
-7
Significant Trend
Insignificant
Coefficient of Variance
0.27 Stable

Well: MW-11
Analyte: Benzene

[illegible][illegible]

Mann-Kendall Trend Statistic (S)
11

Significant Trend
Insignificant

Coefficient of Variance
0.35 Stable

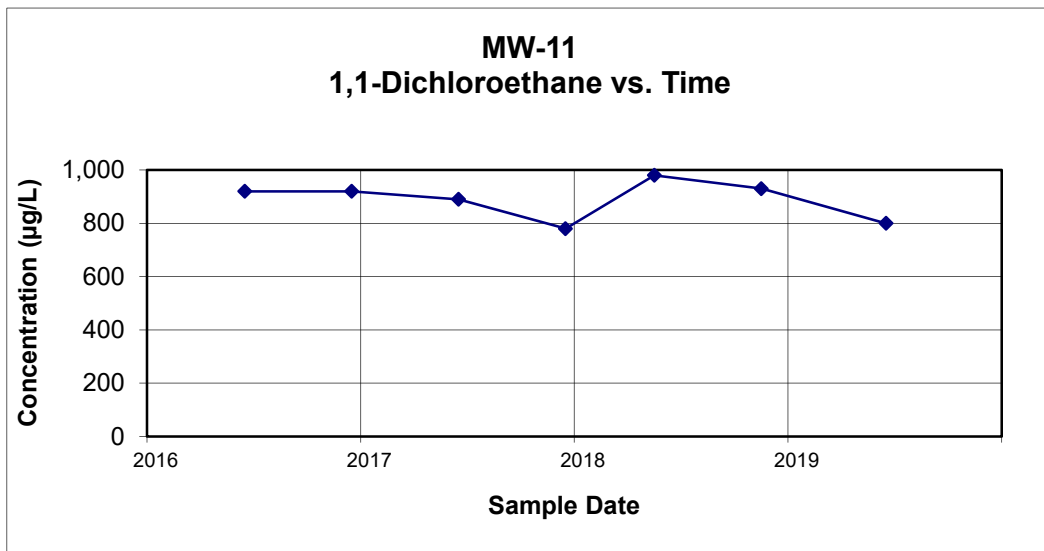
Analyte: 2-Butanone

MANN-KENDALL TEST FOR TREND

Well: MW-11
Analyte: 1,1-Dichloroethane

MW-11	1,1-Dichloroethane		
Date	Raw	Value	Index
Jun-16	920	920	1
Dec-16	920	920	2
Jun-17	890	890	3
Dec-17	780	780	4
May-18	980	980	5
Nov-18	930	930	6
Jun-19	800	800	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-		
0	-30	-140	60	10	-120	0	0	0	0	0	0	0	0	0	0	0	2	3		
	-30	-140	60	10	-120	0	0	0	0	0	0	0	0	0	0	0	2	3		
		-110	90	40	-90	0	0	0	0	0	0	0	0	0	0	0	2	2		
			200	150	20	0	0	0	0	0	0	0	0	0	0	0	3	0		
				-50	-180	0	0	0	0	0	0	0	0	0	0	0	0	2		
					-130	0	0	0	0	0	0	0	0	0	0	0	0	1		
						0	0	0	0	0	0	0	0	0	0	0	0	0		
							0	0	0	0	0	0	0	0	0	0	0	0		
								0	0	0	0	0	0	0	0	0	0	0		
									0	0	0	0	0	0	0	0	0	0		
										0	0	0	0	0	0	0	0	0		
											0	0	0	0	0	0	0	0		
												0	0	0	0	0	0	0		
													0	0	0	0	0	0		
														0	0	0	0	0		
														0	0	0	0			
															0	0	0			
																0	0			
																	0			
																		SUM	9	11



Mann-Kendall Trend Statistic (S)
-2
Significant Trend
Insignificant
Coefficient of Variance
0.08
Stable

Analyte: cis-1,2-Dichloroethene

Mann-Kendall Trend Statistic (S)
11

Significant Trend
Insignificant

Coefficient of Variance
0.12 Stable

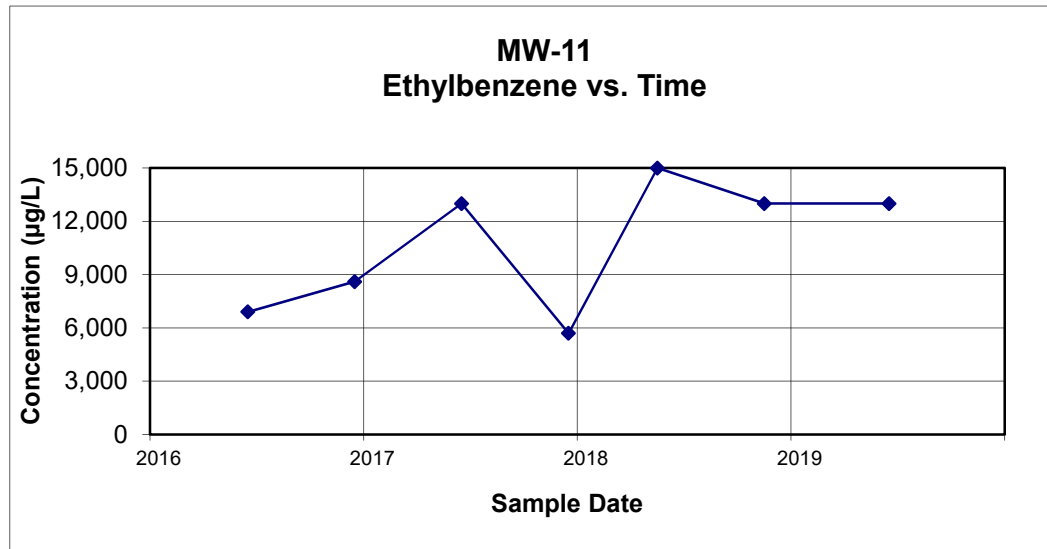
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: Ethylbenzene

MW-11	Ethylbenzene		
Date	Raw	Value	Index
Jun-16	6900	6900	1
Dec-16	8600	8600	2
Jun-17	13000	13000	3
Dec-17	5700	5700	4
May-18	15000	15000	5
Nov-18	13000	13000	6
Jun-19	13000	13000	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-	
1700	6100	-1200	8100	6100	6100	0	0	0	0	0	0	0	0	0	0	0	5	1	
	4400	-2900	6400	4400	4400	0	0	0	0	0	0	0	0	0	0	0	4	1	
		-7300	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
			9300	7300	7300	0	0	0	0	0	0	0	0	0	0	0	3	0	
				-2000	-2000	0	0	0	0	0	0	0	0	0	0	0	0	2	
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	
						0	0	0	0	0	0	0	0	0	0	0	0	0	
							0	0	0	0	0	0	0	0	0	0	0	0	
								0	0	0	0	0	0	0	0	0	0	0	
									0	0	0	0	0	0	0	0	0	0	
										0	0	0	0	0	0	0	0	0	
											0	0	0	0	0	0	0	0	
												0	0	0	0	0	0	0	
													0	0	0	0	0	0	
														0	0	0	0	0	
															0	0	0	0	
																0	0	0	
																	SUM	13	5



Mann-Kendall Trend Statistic (S)
8
Significant Trend
Insignificant
Coefficient of Variance
0.34
Stable

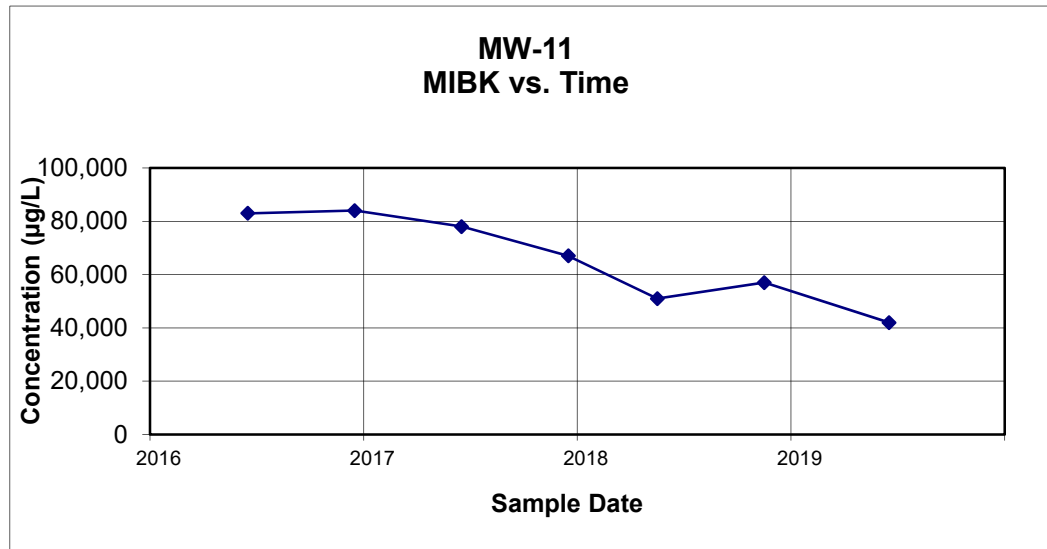
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: MIBK

MW-11	MIBK		
Date	Raw	Value	Index
Jun-16	83000	83000	1
Dec-16	84000	84000	2
Jun-17	78000	78000	3
Dec-17	67000	67000	4
May-18	51000	51000	5
Nov-18	57000	57000	6
Jun-19	42000	42000	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
1000	-5000	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	1	5
	-6000	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	5
		####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	4
			####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	3
				####	####	0	0	0	0	0	0	0	0	0	0	0	1	1
					6000	-9000	0	0	0	0	0	0	0	0	0	0	0	1
						####	0	0	0	0	0	0	0	0	0	0	0	1
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
															SUM	2	19	



Mann-Kendall Trend Statistic (S)
-17
Significant Trend
Downward
Coefficient of Variance
0.25 Stable

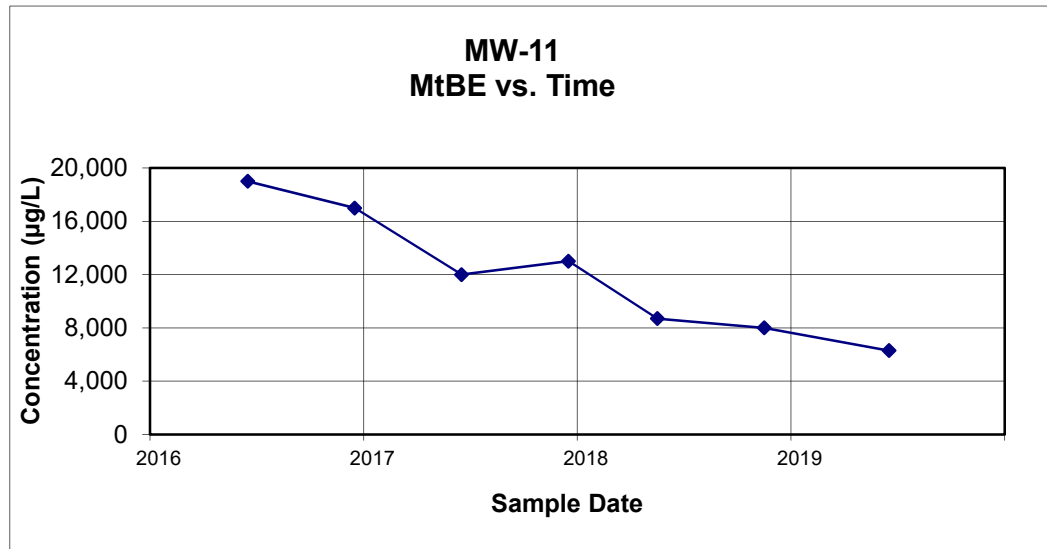
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: MtBE

MW-11		MtBE	
Date	Raw	Value	Index
Jun-16	19000	19000	1
Dec-16	17000	17000	2
Jun-17	12000	12000	3
Dec-17	13000	13000	4
May-18	8700	8700	5
Nov-18	8000	8000	6
Jun-19	6300	6300	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																		+	-
-2000	-7000	-6000	####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	6	
	-5000	-4000	-8300	-9000	####	0	0	0	0	0	0	0	0	0	0	0	0	5	
		1000	-3300	-4000	-5700	0	0	0	0	0	0	0	0	0	0	0	1	3	
			-4300	-5000	-6700	0	0	0	0	0	0	0	0	0	0	0	0	3	
				-700	-2400	0	0	0	0	0	0	0	0	0	0	0	0	2	
					-1700	0	0	0	0	0	0	0	0	0	0	0	0	1	
						0	0	0	0	0	0	0	0	0	0	0	0	0	
							0	0	0	0	0	0	0	0	0	0	0	0	
								0	0	0	0	0	0	0	0	0	0	0	
									0	0	0	0	0	0	0	0	0	0	
										0	0	0	0	0	0	0	0	0	
											0	0	0	0	0	0	0	0	
												0	0	0	0	0	0	0	
													0	0	0	0	0	0	
														0	0	0	0	0	
															0	0	0	0	
																0	0	0	
																	0	0	
																		SUM	
																	1	20	



Mann-Kendall Trend Statistic (S)
-19
Significant Trend
Downward
Coefficient of Variance
0.39 Stable

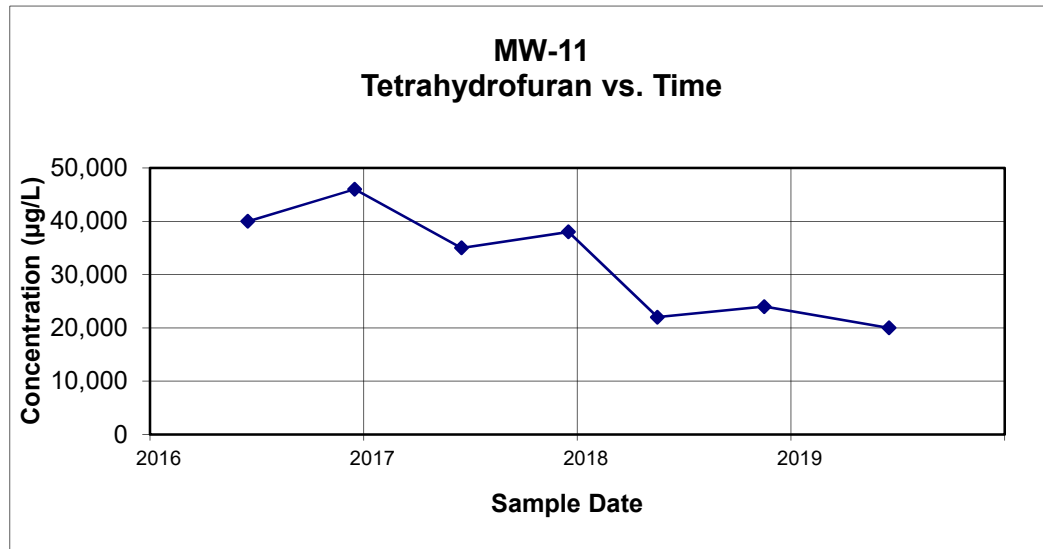
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: Tetrahydrofuran

MW-11	Tetrahydrofuran		
Date	Raw	Value	Index
Jun-16	40000	40000	1
Dec-16	46000	46000	2
Jun-17	35000	35000	3
Dec-17	38000	38000	4
May-18	22000	22000	5
Nov-18	24000	24000	6
Jun-19	20000	20000	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
6000	-5000	-2000	####	####	####	0	0	0	0	0	0	0	0	0	0	0	1	5
	####	-8000	####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	5
		3000	####	####	####	0	0	0	0	0	0	0	0	0	0	0	1	3
			####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	3
				2000	-2000	0	0	0	0	0	0	0	0	0	0	0	1	1
					-4000	0	0	0	0	0	0	0	0	0	0	0	0	1
						0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
															SUM	3	18	



Mann-Kendall Trend Statistic (S)
-15
Significant Trend
Downward
Coefficient of Variance
0.31 Stable

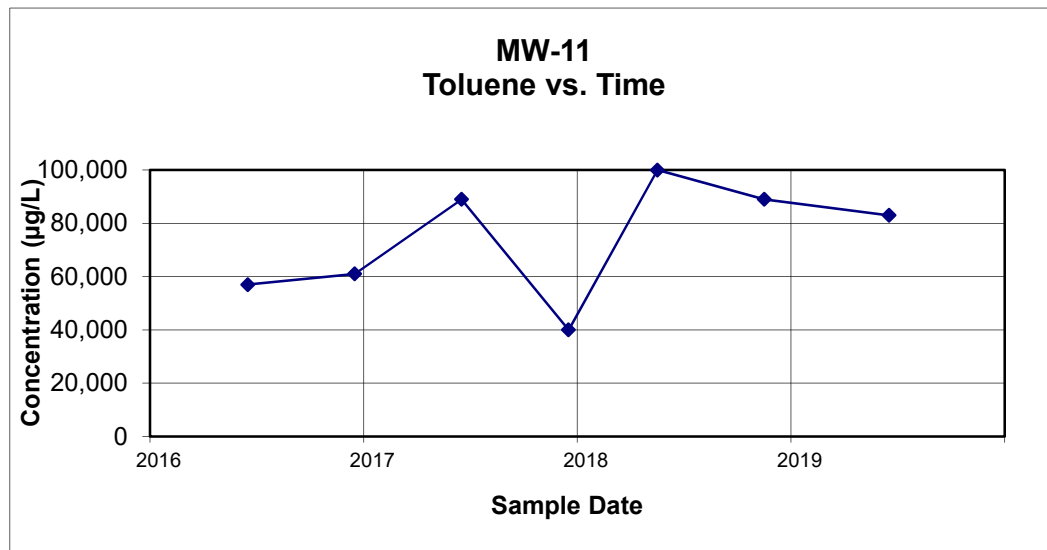
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: Toluene

MW-11	Toluene		
Date	Raw	Value	Index
Jun-16	57000	57000	1
Dec-16	61000	61000	2
Jun-17	89000	89000	3
Dec-17	40000	40000	4
May-18	100000	1E+05	5
Nov-18	89000	89000	6
Jun-19	83000	83000	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
4000	####	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	5	1
	####	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	4	1
		####	####	0	-6000	0	0	0	0	0	0	0	0	0	0	0	1	2
			####	####	####	0	0	0	0	0	0	0	0	0	0	0	3	0
				####	####	0	0	0	0	0	0	0	0	0	0	0	0	2
					####	-6000	0	0	0	0	0	0	0	0	0	0	0	1
						0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
															0	0	0	
																SUM	13	7



Mann-Kendall Trend Statistic (S)
6
Significant Trend
Insignificant
Coefficient of Variance
0.29 Stable

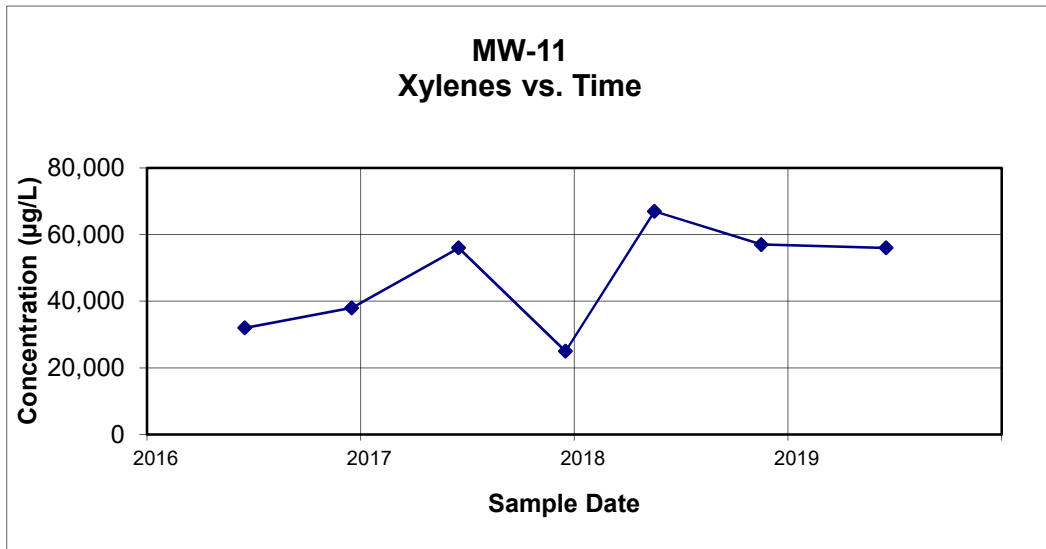
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: Xylenes

MW-11	Xylenes		
Date	Raw	Value	Index
Jun-16	32000	32000	1
Dec-16	38000	38000	2
Jun-17	56000	56000	3
Dec-17	25000	25000	4
May-18	67000	67000	5
Nov-18	57000	57000	6
Jun-19	56000	56000	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
6000	####	-7000	####	####	####	0	0	0	0	0	0	0	0	0	0	0	5	1
	####	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	4	1
		####	####	1000	0	0	0	0	0	0	0	0	0	0	0	0	2	1
			####	####	####	0	0	0	0	0	0	0	0	0	0	0	3	0
				####	####	0	0	0	0	0	0	0	0	0	0	0	0	2
					####	####	0	0	0	0	0	0	0	0	0	0	0	1
						-1000	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
															0	0	0	
																SUM	14	6



Mann-Kendall Trend Statistic (S)
8
Significant Trend
Insignificant
Coefficient of Variance
0.33 Stable

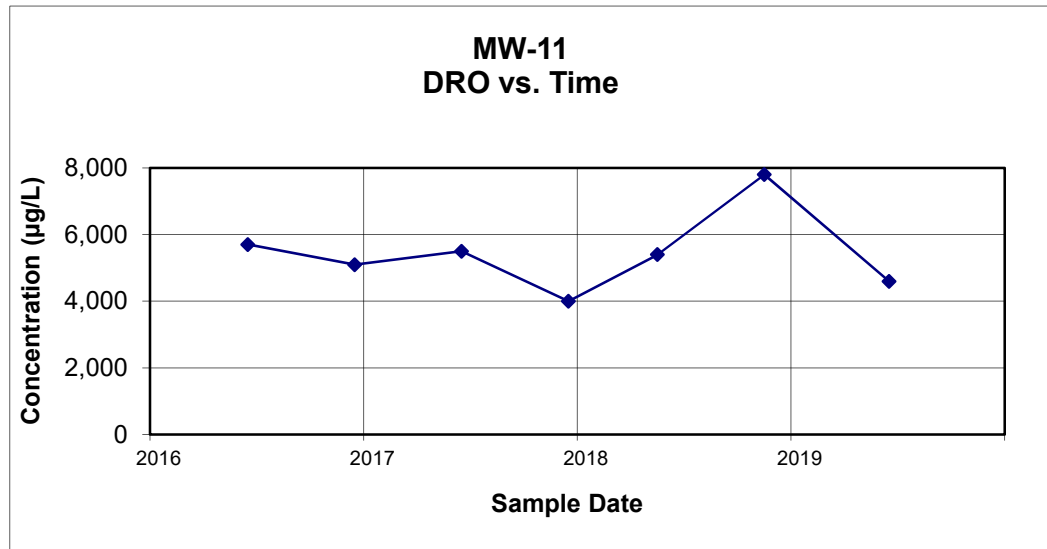
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: DRO

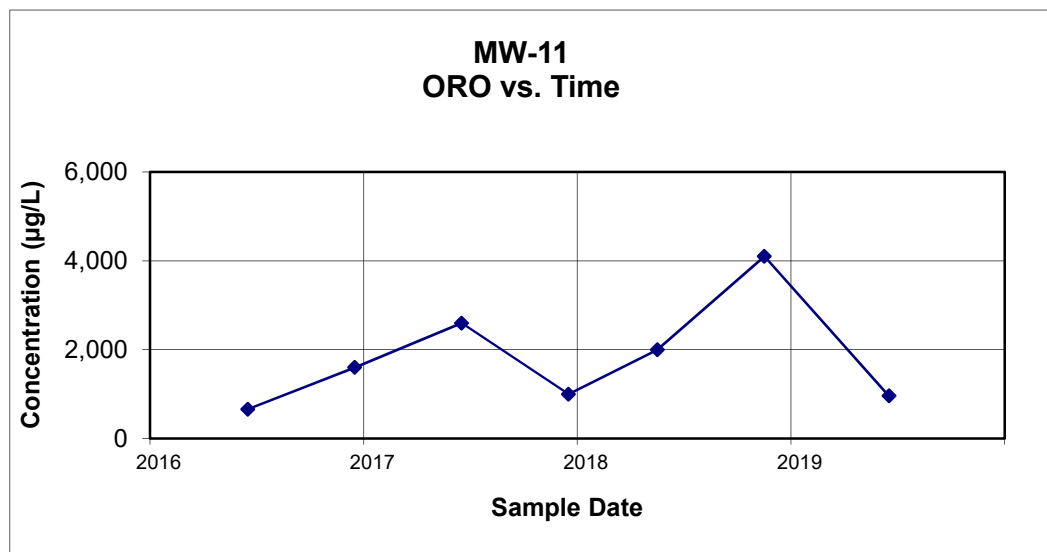
MW-11	DRO		
Date	Raw	Value	Index
Jun-16	5700	5700	1
Dec-16	5100	5100	2
Jun-17	5500	5500	3
Dec-17	4000	4000	4
May-18	5400	5400	5
Nov-18	7800	7800	6
Jun-19	4600	4600	7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																		+	-			
-600	-200	-1700	-300	2100	-1100	0	0	0	0	0	0	0	0	0	0	0	0	1	5			
	400	-1100	300	2700	-500	0	0	0	0	0	0	0	0	0	0	0	0	3	2			
		-1500	-100	2300	-900	0	0	0	0	0	0	0	0	0	0	0	0	1	3			
			1400	3800	600	0	0	0	0	0	0	0	0	0	0	0	0	3	0			
				2400	-800	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
					-3200	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
						0	0	0	0	0	0	0	0	0	0	0	0	0	0			
							0	0	0	0	0	0	0	0	0	0	0	0	0			
								0	0	0	0	0	0	0	0	0	0	0	0			
									0	0	0	0	0	0	0	0	0	0	0			
										0	0	0	0	0	0	0	0	0	0			
											0	0	0	0	0	0	0	0	0			
												0	0	0	0	0	0	0	0			
													0	0	0	0	0	0	0			
														0	0	0	0	0	0			
															0	0	0	0	0			
																0	0	0	0			
																	0	0	0			
																		0	0			
																			0			
																				SUM	9	12



Mann-Kendall Trend Statistic (S)
-3
Significant Trend
Insignificant
Coefficient of Variance
0.22 Stable

Well: MW-11
Analyte: ORO

[illegible][illegible]

Mann-Kendall Trend Statistic (S)
5
Significant Trend
Insignificant
Coefficient of Variance
0.65 Stable

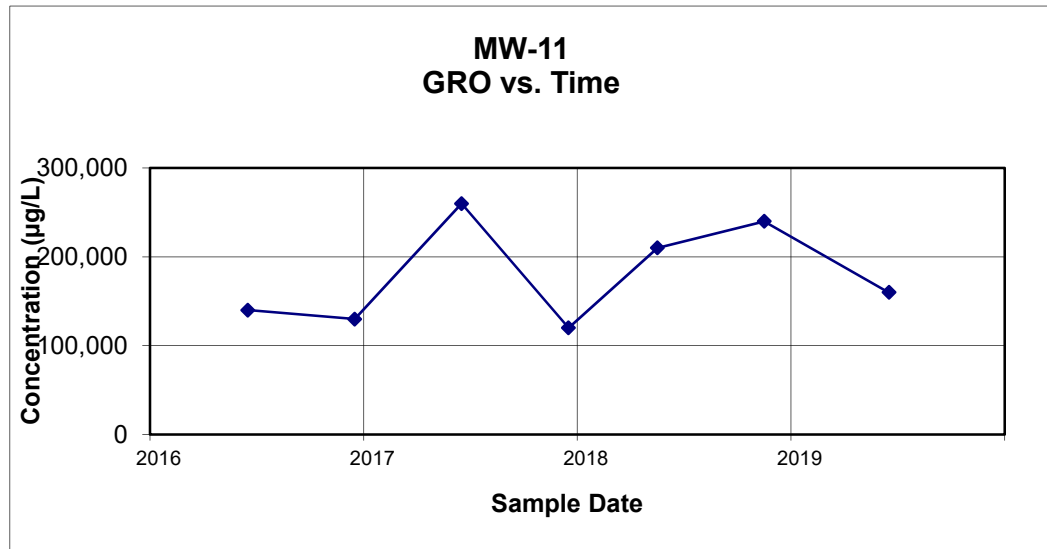
MANN-KENDALL TEST FOR TREND

Well: MW-11

Analyte: GRO

MW-11	GRO		
	Date	Raw	Value Index
	Jun-16	140000	1E+05 1
	Dec-16	130000	1E+05 2
	Jun-17	260000	3E+05 3
	Dec-17	120000	1E+05 4
	May-18	210000	2E+05 5
	Nov-18	240000	2E+05 6
	Jun-19	160000	2E+05 7
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

Calculation Matrix																	+	-
####	####	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	4	2
	####	####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	4	1
		####	####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	4
			####	####	####	0	0	0	0	0	0	0	0	0	0	0	0	4
				####	####	0	0	0	0	0	0	0	0	0	0	0	3	0
					####	0	0	0	0	0	0	0	0	0	0	0	1	1
						0	0	0	0	0	0	0	0	0	0	0	0	1
							0	0	0	0	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0
													0	0	0	0	0	0
														0	0	0	0	0
															0	0	0	0
															0	0	0	
																SUM	12	9



Mann-Kendall Trend Statistic (S)
3
Significant Trend
Insignificant
Coefficient of Variance
0.31 Stable

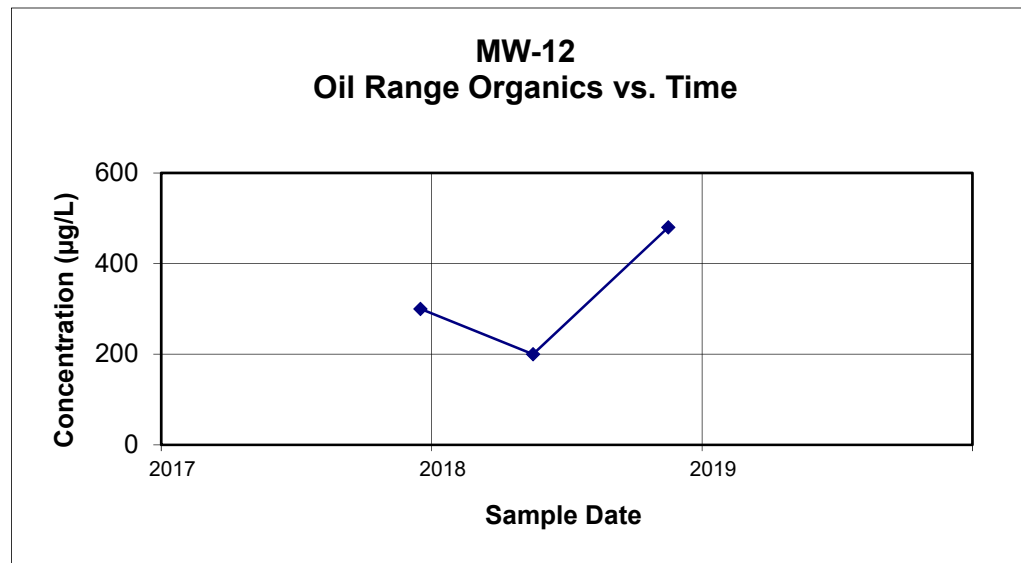
TEST FOR TREND

Well: MW-12

Analyte: Oil Range Organics

MW-12	ORO		
Date	Raw	Value	Index
Dec-17	300	300	1
May-18	200	200	2
Nov-18	480	480	3
Jun-19	240	240	4

Calculation Matrix																		+	-			
-100	180	-60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2			
	280	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0			
		-240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
						0	0	0	0	0	0	0	0	0	0	0	0	0	0			
							0	0	0	0	0	0	0	0	0	0	0	0	0			
								0	0	0	0	0	0	0	0	0	0	0	0			
									0	0	0	0	0	0	0	0	0	0	0			
										0	0	0	0	0	0	0	0	0	0			
											0	0	0	0	0	0	0	0	0			
												0	0	0	0	0	0	0	0			
													0	0	0	0	0	0	0			
														0	0	0	0	0	0			
															0	0	0	0	0			
																0	0	0	0			
																	0	0	0			
																		0	0			
																			0			
																				SUM	3	3



**Mann-Kendall
Trend Statistic (S)**

0

**Significant
Trend**

Insignificant

Coefficient of Variance

0.41
Stable