

MEMO

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June 13, 2018

Arcadis Project No.:

B0064607.2018

Subject:

Supplemental 1,4-Dioxane and VOC Groundwater Sampling Summary RACER
Trust Pontiac North Campus, Pontiac, Michigan

Arcadis of Michigan, LLC (Arcadis) has prepared this Supplemental 1,4-Dioxane and Volatile Organic Compounds (VOC) Groundwater Sampling Summary (Memo) on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER) for the properties at the Pontiac North Campus Site for which RACER is responsible for environmental action (Site) located in Pontiac, Michigan. A Site location map is included as **Figure 1**. This memo summarizes additional groundwater monitoring events conducted in October 2017 and January 2018 to further characterize the extent of 1,4-dioxane in groundwater at the Site. A summary of the 1,4-dioxane-related investigation activities completed at the Site from May 2016 through July 2017 was submitted as part of the *1,4-Dioxane Supplemental Investigation Memorandum* dated December 7, 2017 (Arcadis 2017a).

BACKGROUND

The compound 1,4-dioxane is an emerging groundwater contaminant that has not been commonly analyzed. It is a potential risk at sites that formally used 1,4-dioxane or other chlorinated solvents and is a common co-contaminant with chlorinated solvents due to its use as a stabilizer in TCA. 1,4-Dioxane was also used as a stabilizer in paint strippers, greases, and waxes; as stand-alone solvent in various manufacturing processes; and is also a minor ingredient or by-product in common consumer products such as soaps and detergents. As regulations evolve, 1,4-dioxane may become a regulatory driver at many chlorinated solvent sites alongside the already established contaminants of concern. For these reasons, RACER decided to proactively investigate 1,4-dioxane so that it can evaluate potential exposure pathways and corrective measures. 1,4-Dioxane was first detected at the Site in May 2016, following the

sampling of select monitoring wells that had historically shown impacts related to chlorinated ethanes (e.g., TCA).

Ongoing groundwater monitoring activities are completed on an annual basis for select constituents that have been selected based on groundwater investigations and regular monitoring completed since 2002. Based on the results of the November/December 2016 1,4-dioxane characterization, additional sampling events for 1,4-dioxane took place in 2017 and 2018.

INTRODUCTION

The results of the investigation are compared to the Michigan Department of Environmental Quality (MDEQ) 2013 promulgated criteria and the MDEQ criteria proposed in the 2017 comprehensive Part 201 Cleanup Criteria Rules amendment package for the potential exposure pathways. Promulgated criteria include the 2013 Michigan Part 201 Residential Drinking Water (Res DW) and Non-residential Drinking Water (NR DW) Criteria, Groundwater Surface Water Interface (GSI) criteria, Residential Groundwater Volatilization to Indoor Air Inhalation (RVIA) criteria, and Residential Vapor Intrusion Groundwater Screening Levels (VISLs). It is noted that the current Michigan Part 201 Res DW Criteria for 1,4-dioxane has been established at 7.2 micrograms per liter ($\mu\text{g/L}$), compared to the previous value of 85 $\mu\text{g/L}$ and the NR DW criteria for 1,4-dioxane is 37 $\mu\text{g/L}$. For additional consideration and frame of reference, results were also compared to the Draft 2017 Michigan Part 201 Res DW and NR DW Criteria, Michigan Rule 57 Human Cancer Value (HCV) for surface water used as a drinking water source (2013 GSI comparable equivalent), and Draft 2017 Tier I VISLs. Note that the GSI criteria was removed from the Draft 2017 criteria. Per Rule R299.6(10), the groundwater surface water interface generic cleanup criteria is the minimum of the water quality standards for surface water developed for toxic substances or otherwise applicable water quality standards for surface water, developed pursuant to Part 31 of the Natural Resources and Environmental Protection Act.

Concentrations of 1,4-dioxane exceed both the 2013 (as amended with promulgated 1,4-D criteria) and Draft 2017 NR DW Criteria on-Site and the Res DW Criteria at the Former Fiero Assembly Site (Fiero) property boundary. However, based on the 1,4-dioxane investigation results, existing groundwater use restrictions in the area, and the water well survey findings (MDEQ 2012), there are no known receptors of groundwater either on or off-Site, and therefore the groundwater drinking water exposure pathway for 1,4-dioxane is incomplete.

Exceedances of the 2013 VI groundwater screening levels for 1,4-dioxane and several other VOCs have been detected at the Fiero property and a property previously referred to as the Former Demolition area which is occupied by the United States Postal Service (USPS). These exceedances are limited to central areas of Fiero and USPS properties. No wells along the Fiero or USPS property boundary exceed this VI criteria.

Exceedances of the Draft 2017 Tier 1 VISLs for tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethane (DCA) have been observed at the Fiero property boundary. However, the exceedances of the Draft 2017 Tier 1 VISLs do not exceed the Residential Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (RIASLs - MDEQ August 2017) for groundwater not in contact with a building foundation. Based on an evaluation of vadose zone thickness, it is unlikely that residential foundations immediately downgradient of Fiero are in contact with groundwater (areas greater than 10 feet of vadose zone thickness). A map illustrating the vadose zone thickness is included as **Attachment 1**. All on-Site groundwater results which exceed the Tier 1 VISLs fall far below the calculated VI Tier 3A (NR) values based on the MDEQ Volatilization to Indoor Air Pathway (VIAP) Calculator results. A number of

constituents exceed the more conservative calculated Tier 2 (residential) values at wells located in central Fiero, western Fiero property boundary, and the central USPS property. However, on-Site and offsite groundwater use restrictions and restrictive covenants either already address or will address identified exceedances.

1,4-DIOXANE INVESTIGATION ACTIVITIES

During ongoing Site investigation and data evaluation activities completed in early to mid-2016, 1,4-dioxane was detected in groundwater at the Site in two separate areas: Fiero and the USPS properties; specifically, light non-aqueous phase liquid (LNAPL) Area 1/7 (Area of Interest [AOI] W-1) and LNAPL Area 10 (AOI W-8). These areas are shown on **Figure 2**. The characterization of 1,4-dioxane was completed during the following phases of work:

- Supplemental Site Characterization – In May 2016, select monitoring wells in areas where 1,1,1-trichloroethane (TCA) had previously been identified were sampled for 1,4-dioxane.
- 1,4-Dioxane Supplemental Investigation – After 1,4-dioxane was detected in groundwater in May 2016, supplemental investigation activities were completed from November to December 2016 to further characterize the nature and extent of 1,4-dioxane. The scope of work included:
 - Sampling additional existing monitoring wells in the Fiero area for 1,4-dioxane.
 - Completion of Hydraulic Profiling Tool (HPT) borings and vertical aquifer profile (VAP) sampling along the southern Fiero area property boundary.
 - Sampling of additional existing monitoring wells downgradient of LNAPL Areas 1/7 and LNAPL Area 10 for 1,4-dioxane.
- 1,4-Dioxane Phase 2 Supplemental Investigation – In April, July, and October 2017 and January 2018, additional monitoring wells were sampled to further assess the extent of 1,4-dioxane including monitoring wells MW-01-17 and MW-02-17 which were installed in April 2017. New and existing monitoring wells were sampled in the Fiero area and downgradient of LNAPL Area 1/7.

All field activities were performed in accordance with the sampling methodologies and analytical procedures set forth in the Field Sampling Plan (FSP; Encore 2001a) and Quality Assurance Project Plan (QAPP; Encore 2001b). The data collected as part of the 1,4-dioxane characterization activities will be used to update the conceptual site model (CSM) in support of evaluating potential exposure pathways and developing corrective measures, as appropriate.

Supplemental Site Characterization and Investigations (May 2016 – July 2017)

The supplemental Site characterizations and investigations outlined above all produced analytical results which are summarized on **Figures 3a through 3d**. The results for the May 2016 Supplemental Site Characterization were previously provided in the *Supplemental Site Characterization Summary* (Arcadis 2016a). The supplemental investigation activities conducted in November and December 2016 were performed in accordance with the *Work Plan to Investigate the Presence of 1,4-Dioxane* (Workplan; Arcadis 2016b). A preliminary status update was provided to USEPA in the *1,4-Dioxane Supplemental Investigation Scope of Work* (Arcadis 2017a). A more detailed summary of these investigation activities was provided in the *1,4-Dioxane Supplemental Investigation Memorandum* (Arcadis 2017b). The Phase 2 Supplemental Investigation conducted from April through July 2017 was summarized in the *1,4-Dioxane Supplemental Investigation Memorandum* (Arcadis 2017b). Laboratory analytical reports for the July 2017

sampling event which were not included in the *1,4-Dioxane Supplemental Investigation Memorandum* (Arcadis 2017b) are included in **Attachment 2**. Laboratory analytical results from sampling events prior to July 2017 were included in previous reports.

ADDITIONAL 1,4-DIOXANE AND VOC GROUNDWATER SAMPLING ACTIVITIES

Based on the 1,4-Dioxane Supplemental Investigation results and the scope of work outlined in the *1,4-Dioxane Supplemental Investigation Scope of Work* (Arcadis 2017a), additional groundwater sampling was completed in October 2017 through January 2018. This included quarterly and semi-annual sampling of selected monitoring wells near the downgradient property boundaries near Fiero and downgradient of LNAPL Area 1/7. 1,4-Dioxane sampling coincided with the 2017 annual groundwater sampling event at the Site in October 2017. During this event, groundwater elevation and LNAPL thickness measurements were recorded from selected monitoring wells from Fiero, south of Fiero, AOI M-2, and within and adjacent to the USPS property. Groundwater and LNAPL levels were measured to the nearest 0.01 foot with an oil/water interface probe. Groundwater elevations were calculated using surveyed top-of-well casing elevations. Equivalent groundwater elevations were calculated for wells where LNAPL was present. A summary of water levels and groundwater elevations as measured from the October 2017 gauging and sampling event are presented in **Table 1**. Apparent shallow groundwater flow across the Site is generally to the south and southwest, as shown on **Figure 4**.

Additional Groundwater Sampling

During the October quarterly/semi-annual sampling event, groundwater samples were collected from 20 monitoring wells located at Fiero and LNAPL Area 1/7 using low-flow sampling procedures. Seven monitoring wells were sampled during the January 2018 quarterly sampling event. During sampling, purge water was monitored for dissolved oxygen (DO), temperature, specific conductivity, turbidity, oxygen reduction potential (ORP), and pH. These water quality measurements were used to determine groundwater sample stability prior to collecting the samples. Groundwater samples were collected and sent to Merit for analysis of:

- Target Compound List (TCL) VOCs using USEPA Method 8260C
- 1,4-Dioxane using USEPA Method 8260C SIM.

Purge water was containerized in drums and stored on-Site for characterization and off-Site disposal.

Additional Groundwater Sampling Results

A summary of the groundwater analytical results for 2016 through 2018 compared to 2013 MDEQ criteria are provided as **Table 2**. A summary of the groundwater analytical results from 2016 through 2018 compared to the Draft 2017 MDEQ criteria are included as **Table 3**. The analytical laboratory reports for October 2017 and January 2018 are included in **Attachments 3 and 4**. Note that since the October quarterly/semi-annual sampling event coincided with the annual Site-wide sampling event, the laboratory reports contain several samples whose results are not discussed as part of this memo. The annual groundwater analytical results can be found in the *2017 Annual Groundwater Monitoring Report* (Arcadis 2018). Exceedances of the current 2013 Part 201 criteria are shown on **Figures 3A and 3B**, while exceedances of the Draft 2017 Part 201 criteria are shown on **Figures 3C and 3D**.

2013 Criteria Exceedances

Analytical results are similar to previous sampling events for wells within the boundaries of the Fiero and USPS properties. Exceedances of Res DW and NR DW for various VOCs occur within multiple Fiero and USPS monitoring wells. GSI exceedances are limited to 2 central Fiero monitoring wells. Groundwater analytical results exceeding 2013 VI criteria and screening levels are limited at the Site. Several 1,4-dioxane exceedances of the 2013 Residential Vapor Intrusion Groundwater Screening Level (29 µg/L) as well as several other VOCs occur, but are all limited to the central Fiero and USPS properties and do not occur at Site boundaries. The only exceedances which occur near the Fiero southern boundary include Res DW criteria exceedances at MWF1R of 1,4-dioxane, a single Res DW exceedance of 1,4-dioxane at MWF12-01 in 2016, and exceedances of Res DW and NR DW at MW-02-17 for PCE, TCE, and 1,4-dioxane in 2017 and 2018. One well, MW16-23, along the western Fiero boundary contains Res DW and NR DW exceedances for TCE. There were no wells along the southern USPS property boundary which exceeded applicable criteria for 1,4-dioxane or any other VOC during these sampling events.

Draft 2017 Criteria Exceedances

Overall, analytical exceedances are similar to those compared to 2013 Res DW and NR DW criteria. Exceedances of Rule 57 surface water and Tier 1 VI screening levels for various VOCs occur within multiple Fiero and USPS monitoring wells and are observed in more wells than for 2013 criteria. Similar exceedances occur near the Fiero southern boundary but include Res DW, NR DW, Rule 57 Surface Water, and Tier 1 VI. Monitoring well, MW16-23, along the western Fiero boundary contains Res DW, NR DW, and VI exceedances for several VOCs. There were no wells along the southern USPS property boundary which exceeded draft criteria for 1,4-dioxane or any other VOC during these sampling events.

DISCUSSION AND RECOMMENDATIONS

Multiple phases of investigation were undertaken to define the nature and extent of 1,4-dioxane in two separate areas: the Fiero and USPS properties. Even though there are no known drinking water wells on-Site or downgradient from the Site and therefore no complete exposure pathway, results were compared to the 2013 and Draft 2017 Michigan Part 201 Res DW and NR DW Criteria. Results for 1,4-dioxane and other VOCs were also compared to the 2013 GSI criteria, RVIA criteria and VISLs, as well as Draft 2017 Tier I VISLs and the Michigan Rule 57 HCV for surface water used as a drinking water source.

Arcadis offers the following conclusions:

- DW Criteria - 1,4-Dioxane has been detected above the Res DW criteria of 7.2 µg/L and PCE has been detected above the NR DW criterion of 5 µg/L at the Fiero southern property boundary. TCE has been detected above the NR DW criterion of 5 µg/L at the Fiero western property boundary. However, the downgradient off-site area is within a groundwater restriction zone per a City of Pontiac Ordinance, and no water supply wells are present downgradient of the Fiero property. There are no wells along the southern USPS property boundary which exceed NR DW or Res DW criteria for 1,4-dioxane or any other VOC.
- 2013 VISLs – 1,4-dioxane and several other VOCs have been detected above the 2013 VISLs. These exceedances are limited to central areas of Fiero and USPS properties. No wells along the Fiero or USPS property boundaries exceed this VI criteria and therefore, groundwater does not appear to pose a risk to off-Site receptors for this pathway.

- Draft 2017 Tier I VISLs – Exceedances of the Draft 2017 Tier I VISLs for PCE, TCE, and DCA have been observed at the Fiero property boundary. However, PCE, TCE, and DCA do not exceed the RIASLs for groundwater not in contact with a building foundation. Based on an evaluation of vadose zone thickness, it is unlikely that residential foundations immediately downgradient of Fiero are in contact with groundwater. Multiple VOCs exceed the Draft 2017 Tier I VISLs across the Site. There are no wells along the southern USPS property boundary which exceed Tier 1 VISLs for 1,4-dioxane or any other VOC. The MDEQ VIAP Calculator was used as a tool to estimate the VI Tier 3A (NR) values for the Site as well as more conservative VI Tier 2 (Res) values even though the 2017 proposed rule changes are not official. The calculator provides an evaluation of criteria resulting from a proposed tier approach although MDEQ guidance specifies that says it cannot be used for pathway compliance determinations. Final approval of site specific VI criteria would require MDEQ approval. Depth to groundwater was considered 20 feet and the soil texture was defaulted to sand. The resulting VI Tier 3A and 2 groundwater criteria are listed below for VOCs which have exceeded Tier 1 VI screening levels:

COC	Calculated VI Tier 3A (µg/L)	Calculated VI Tier 2 (µg/L)
1,1-Dichloroethane	2,200	95
1,1-Dichloroethene	3,500	240
1,2-Dichloroethane	690	29
1,4-Dioxane	680,000	25,000
Benzene	470	20
Carbon tetrachloride	170	7.8
Chloroform	250	11
cis-1,2-Dichloroethene	990	67
Phenanthrene	0.68 (M); 2	0.077 (M); 2
Tetrachloroethene	1,300	140
Trichloroethene	85	8.8
Vinyl Chloride	110	1.3

M – Calculated health-based value is below the analytical target detection limit; therefore, the target detection limit is the criterion.

All on-site groundwater results which exceed the Tier 1 VI screening levels fall far below the calculated VI Tier 3A (non-residential) values. A number of constituents exceed the more conservative Tier 2 (residential) values at MWF16-06, MWF16-19 (central Fiero), MWF16-23 (western Fiero property boundary), and TW-01-03 (central USPS). VIAP Calculator inputs and calculated criteria are included as **Attachment 5**.

- 2013 GSI Criteria – Exceedances of GSI criteria are limited to two on-site wells, MWF7-02 and MWF16-11. Both wells are located in central Fiero and each have a number of downgradient wells

with the same COCs below applicable GSI criteria. No wells along the Fiero or USPS property boundaries exceed this 2013 GSI criteria and therefore, groundwater does not pose a GSI risk.

- Draft 2017 Surface Water Criteria – Maximum PCE concentrations detected at the southern Fiero property boundary between 2016-2017 exceeded the Rule 57 PCE criterion of 11 µg/L. Off-site monitoring wells MWOS-01 and MWOS-02, which are down gradient of the Fiero area and upgradient of Harris Lake, have had no exceedances of any COCs over 2016-2017. Therefore, PCE impacts in groundwater does not pose a GSI risk.
- Follow-up sampling events of monitoring wells along the southern Fiero property boundary suggest the concentrations of 1,4-dioxane and VOCs vary over time.

Concentrations of 1,4-dioxane and other VOCs exceed the current 2013 criteria and/or the Draft 2017 criteria on-Site and at the Fiero property boundary. However, based on the investigation results, existing on-Site and offsite groundwater use restrictions, water well survey findings, distance from closest surface water body, vadose zone thickness, and Tier 2 Res and Tier 3A NR value calculations, impacts in groundwater either do not have on- and off-Site receptors and/or do not pose a risk to off-Site receptors. Furthermore, use of restrictive covenants either already address or will address on-Site exceedances. Therefore, further delineation of low concentrations of 1,4-dioxane and VOCs is not necessary.

Based on the data presented above, recommendations are provided below:

- Due to continued VOC exceedances along the southern Fiero property boundary and based on analytical results specific to certain boundary wells, add MW-02-17 to the annual groundwater sampling list in lieu of MWF1R, and also add both MW-16-23 and MW-16-25 to the list to better monitor for VOCs and 1,4-dioxane to evaluate trends;
- Install one additional monitoring well between MWF16-23 and MW-02-17 to address the apparent data gap and characterize VOCs and 1,4-dioxane along the western Fiero property boundary, and based on results also potentially add this monitoring well to the annual groundwater sampling list;
- Based on the preliminary VIAP calculations, it is recommended that Site-specific VI criteria be developed to be used for pathway compliance determinations and submitted to USEPA.

REFERENCES

- Arcadis. 2016a. Supplemental Site Characterization Summary, RACER Pontiac North Campus Site, Pontiac, Michigan, July 21
- Arcadis. 2016b. Work Plan to Investigate the Presence of 1,4-Dioxane, RACER Pontiac North Campus Site, Pontiac, Michigan, November 21
- Arcadis. 2017a. 1,4-Dioxane Supplemental Investigation Scope of Work, RACER Pontiac North Campus Site, Pontiac, Michigan, March 28.
- Arcadis. 2017b. 1,4-Dioxane Supplemental Investigation Memorandum, RACER Pontiac North Campus Site, Pontiac, Michigan, December 7.
- Arcadis 2018. 2017 Annual Groundwater Monitoring Report, RACER Pontiac North Campus, Pontiac, Michigan. February 20.
- Encore. 2001a. Field Sampling Plan, Pontiac North Campus. General Motors Corporation, Pontiac, Michigan. May 2001.

Encore. 2001b. RFI Work Plan, Pontiac North Campus. General Motors Corporation, Pontiac, Michigan. May 15, 2001.

MDEQ. 2012. <http://wellviewer.rsgis.msu.edu/viewer.htm>

ATTACHMENTS

Tables

Table 1 – Groundwater Elevation Summary, October 2017

Table 2 – Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria

Table 3 – Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria

Figures

Figure 1 – Site Location

Figure 2 – Site Detail

Figure 3A - 1,4-Dioxane and Other VOC Results – Drinking Water and Groundwater/Surface Water Exceedances – 2013 criteria

Figure 3B - 1,4-Dioxane and Other VOC Results – Vapor Intrusion Exceedances – 2013 criteria

Figure 3C – 1,4-Dioxane and Other VOC Results – Drinking Water and Surface Water Exceedances – 2017 Draft criteria

Figure 3D - 1,4-Dioxane and Other VOC Results – Vapor Intrusion Exceedances – 2017 Draft criteria

Figure 4 – Groundwater Elevation Contour – October 2017

Attachments

- 1 Vadose Zone Thickness
- 2 Laboratory Analytical Data – July 2017
- 3 Laboratory Analytical Data – October 2017
- 4 Laboratory Analytical Data – January 2018
- 5 VIAP Calculator Input and Results

TABLES

Table 1
Groundwater Elevation Summary, October 2017
2018 1,4-Dioxane and Other VOC Supplemental Investigation Summary Memo
RACER Trust Pontiac North Campus

Well ID	Well Elevation ¹	Depth to Water (ft)	Depth to LNAPL (ft)	Groundwater Elevation	LNAPL Thickness (ft)	Equivalent Groundwater Elevation ²
Sitewide						
MWF1R	971.74	25.82	--	945.92	--	--
MW-02-17	972.52	26.59	--	945.93	--	--
Off-Site						
MWOS-01	943.79	7.65	--	936.14	--	--
MWOS-02	943.46	7.27	--	936.19	--	--
MWOS-03	944.35	7.71	--	936.64	--	--
MWOS-04	942.52	4.24	--	938.28	--	--
MWOS-06	944.01	1.72	--	942.29	--	--
Fiero						
F-7						
MWF7-01	970.30	20.62	--	949.68	--	--
MWF7-02	970.58	20.57	--	950.01	--	--
MWF7-03	973.31	22.25	--	951.06	--	--
F-8						
MWF8-01	972.94	19.35	--	953.59	--	--
F-12						
MWF12-01	965.39	18.05	--	947.34	--	--
MWF12-02	966.81	18.94	--	947.87	--	--
F-16						
MWF16-10	973.57	20.55	--	953.02	--	--
MWF16-11	973.36	20.75	--	952.61	--	--
MWF16-05	973.95	21.27	--	952.68	--	--
MWF16-17	973.32	20.82	--	952.50	--	--
MWF16-16	973.22	23.31	--	949.91	--	--
MWF16-15	972.71	22.72	--	949.99	--	--
MWF16-23	973.39	24.77	--	948.62	--	--
Demolition Area						
W-1						
MWW01-SEN03	981.67	39.11	--	942.56	--	--
MWW01-SEN04	971.12	27.80	--	943.32	--	--
MWW1-04	944.20	8.70	--	NA ⁴	--	--
MWW1-06	943.63	5.40	--	938.23	--	--
MW-01-17	949.40	7.15	--	942.25	--	--
MW-40-99	952.32	9.73	--	942.59	--	--
TW-01-01	972.95	29.52	26.41	943.43	3.11	946.17
TW-01-02	973.38	21.28	--	952.10	--	--
TW-01-03	969.06	16.06	--	953.00	--	--
W-5						
MWW5-01	970.57	16.43	--	954.14	--	--
W-8						
TW-03-01	970.48	21.84	21.81	948.64	0.03	948.67
MWW8-34	966.55	15.44	15.39	951.11	0.05	951.15
MWW8-45	968.40	18.15	--	950.25	--	--
MWW8-48	971.08	25.04	19.85	946.04	5.19	950.61
MWW8-65	969.62	34.57	25.11	935.05	9.46	943.38
RWW8-119	969.36	18.91	--	950.45	--	--
RWW8-124	967.77	17.37	--	950.40	--	--
RWW8-125	967.64	17.31	--	950.33	--	--
RWW8-129	966.71	17.26	16.31	949.45	0.95	950.29
RWW8-130	966.44	16.19	--	950.25	--	--
RWW8-131	966.01	15.73	--	950.28	--	--
RWW8-132	965.47	15.32	--	950.15	--	--
RWW8-133	966.34	17.12	16.10	949.22	1.02	950.12
TW-11-01	969.28	10.18	4.98	959.10	5.20	963.68
TW-11-02	970.38	8.55	6.05	961.83	2.50	964.03
TW-09-01	970.01	17.54	17.52	952.47	0.02	952.49
TW-10-01	971.91	20.88	--	951.03	--	--
TW-10-02	971.83	18.53	--	953.30	--	--
TWW8-01	969.37	31.09	24.15	938.28	6.94	944.39
W-10						
MWW10-03	958.20	10.60	--	947.60	--	--
MWW10-SEN01	967.31	19.34	--	947.97	--	--
MWW10-SEN02	967.68	26.24	--	941.44	--	--

See Notes on last page.

Table 1
Groundwater Elevation Summary, October 2017
2018 1,4-Dioxane and Other VOC Supplemental Investigation Summary Memo
RACER Trust Pontiac North Campus

Well ID	Well Elevation ¹	Depth to Water (ft)	Depth to LNAPL (ft)	Groundwater Elevation	LNAPL Thickness (ft)	Equivalent Groundwater Elevation ²
MFD						
M-2						
MWM2-22	967.56	17.94	--	NA ⁴	--	--
MWM2-28	967.70	17.60	--	NA ⁴	--	--
TWM2-04	967.64	48.56	--	NA ⁴	--	--
M-16						
MWM16-02	979.83	23.10	--	956.73	--	--
MWM16-31	981.08	23.81	--	957.27	--	--
MWM16-36	981.33	24.35	--	956.98	--	--
MWM16-37	980.37	23.49	--	956.88	--	--

Abbreviations:

CNL = Could not locate

ft = Feet

LNAPL = Light non-aqueous phase liquid

NA = Not applicable

NM = Not measured

Footnotes:

¹ Top of Casing Elevation is in feet National Vertical Geodetic Datum (1988)

² The equivalent groundwater (GW) elevation is calculated where LNAPL is present using the LNAPL surface elevation, the thickness of LNAPL and the approximate specific density of the LNAPL (0.8). The calculation is as follows: *Equivalent GW elevation = LNAPL surface elevation - ((1-specific density of the LNAPL) x LNAPL thickness)*

³ Well is on GM or other Non-Racer Property and was not gauged.

⁴ Well converted to stick-up in July 2017. Well requires re-surveying.

⁵ Water levels collected on October 23 - 27, 2017.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MW-01-17 04/26/17	MW-01-17 07/20/17	MW-01-17 10/26/17	MW-01-17 01/15/18	MW-02-17 04/21/17	MW-02-17 07/20/17	MW-02-17 10/23/17	MW-02-17 01/15/18	MW-40-99 09/20/16	MW-40-99 12/21/16	MW-40-99 10/26/17	MW-40-99 01/15/18	MWF1R 09/20/16	MWF1R 04/21/17
Volatile Organics																			
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	NA	NA	2 U	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	NA	NA	NA	NA	NA	NA	90 U	NA	NA	NA	90 U	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1 U	1 U	1 U	2	2 [2]	2	2	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	NA	10 U	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Styrene	100	100	170,000	80	800	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U	1 U	1 U	12	5 [5]	10	11	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA

See Notes on last page.

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Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MW-01-17 04/26/17	MW-01-17 07/20/17	MW-01-17 10/26/17	MW-01-17 01/15/18	MW-02-17 04/21/17	MW-02-17 07/20/17	MW-02-17 10/23/17	MW-02-17 01/15/18	MW-40-99 09/20/16	MW-40-99 12/21/16	MW-40-99 10/26/17	MW-40-99 01/15/18	MWF1R 09/20/16	MWF1R 04/21/17
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1 U	1 U	1 U	1 U	3 [4]	5	8	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U	1 U	1 U	1	2 [2]	2	2	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																			
1,4-Dioxane	7.2	350	--	2,800	29	3 U	3 U	3 U	3 U	3 U	3 U [3 U]	12	19	NA	3 U	3 U	3 U	4	18
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																			
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF1R 07/20/17	MWF1R 10/23/17	MWF1R 01/15/18	MWF7-01 05/19/16	MWF7-01 09/22/16	MWF7-01 04/21/17	MWF7-01 10/24/17	MWF7-02 09/22/16	MWF7-02 04/21/17	MWF7-02 10/24/17	MWF7-03 09/22/16	MWF7-03 04/27/17	MWF7-03 10/25/17	MWF8-01 09/21/16	MWF8-01 12/22/16
Volatile Organics																				
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	NA	NA	2 U	NA	NA	2 U	NA	NA	2 U	NA	NA	2 U	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	NA	NA	90 U	NA	NA	90 U	NA	NA	90 U	NA	NA	90 U	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U	1 U	NA	1 U	1 U	1 U	2	1 U	1 [1]	1 U	1 U	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U	1 U	NA	NA	1 U	1 U	NA	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1 U	1 U	NA	2	2	3	50	34	51 [52]	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U	1 U	NA	1 U	1 U	1 U	1	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U	1 U	NA	1 U	1 U	1	20	9	14 [14]	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U	1 U	NA	1 U	1 U	1 U	5	2	3 [3]	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	NA	10 U	NA	NA	10 U	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U	1 U	NA	5 U	1 U	1 U	5 U	1 U	1 U [1 U]	5 U	1 U	1 U	5 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U	NA	NA	10 U	10 U	NA	10 U	10 U [10 U]	NA	10 U	10 U	NA	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U	NA	NA	1 U	1 U	NA	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Styrene	100	100	170,000	80	800	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U	1 U	NA	1 U	1 U	1	34 J	27	26 [26]	1 UJ	1 U	1 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA	NA	5 U	NA

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1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1 U	1 U	NA	9	8	18	106	52	76 [78]	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U	1 U	NA	1 U	1 U	1 U	4	3	4 [4]	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U	1 U	NA	NA	1 U	1 U	NA	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA	1 U	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																				
1,4-Dioxane	7.2	350	--	2,800	29	3 U	20	4	22 [29]	NA	14	27	540 Y	188	470 Y [480 Y]	3 U	3 U	3 U	NA	3 U
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																				
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF1R 07/20/17	MWF1R 10/23/17	MWF1R 01/15/18	MWF7-01 05/19/16	MWF7-01 09/22/16	MWF7-01 04/21/17	MWF7-01 10/24/17	MWF7-02 09/22/16	MWF7-02 04/21/17	MWF7-02 10/24/17	MWF7-03 09/22/16	MWF7-03 04/27/17	MWF7-03 10/25/17	MWF8-01 09/21/16	MWF8-01 12/22/16
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF8-01 10/26/17	MWF12-01 05/19/16	MWF12-01 09/21/16	MWF12-01 04/26/17	MWF12-01 07/21/17	MWF12-01 10/24/17	MWF12-01 01/16/18	MWF12-02 09/21/16	MWF12-02 09/22/16	MWF12-02 04/26/17	MWF12-02 07/21/17	MWF12-02 10/24/17	MWF12-02 01/16/18	MWF16-05 10/25/17	MWF16-06 04/28/17
Volatile Organics																				
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	2 U [2 U]	NA	NA	NA	NA	2 U	2 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	90 U [90 U]	NA	NA	NA	NA	90 U	90 U	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	NA	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	NA	25 U [25 U]	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	19
CFC-11	2,600	7,300	1,100,000	--	--	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroform	80	80	28,000	350	140	1	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	160
Chloromethane	260	1,100	8,600	--	220	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	NA	NA	1 U	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	NA	3 [4]	4	5	2 [2]	3	2	1	1	1	2	2 [2]	1 U	167
1,2-Dichloroethane	5	5	9,600	360	41	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	2
1,1-Dichloroethene	7	7	200	130	4,300	1 U	NA	1 U [1]	1 U	1	1 U [1 U]	1	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	24
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	28
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	10 U [10 U]	NA	NA	NA	NA	10 U	10 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	110,000	18	700	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	NA	5 U [5 U]	1 U	1 U	1 U [1 U]	1 U	5 U	5 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	NA	NA	10 U	10 U	10 U [10 U]	10 U	NA	NA	10 U	10 U	10 U	10 U [10 U]	10 U	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	NA	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	NA	NA	1 U	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	NA	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Styrene	100	100	170,000	80	800	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	12	43
Toluene	790	790	530,000	270	36,000	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	5 U [5 U]	NA	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF8-01 10/26/17	MWF12-01 05/19/16	MWF12-01 09/21/16	MWF12-01 04/26/17	MWF12-01 07/21/17	MWF12-01 10/24/17	MWF12-01 01/16/18	MWF12-02 09/21/16	MWF12-02 09/22/16	MWF12-02 04/26/17	MWF12-02 07/21/17	MWF12-02 10/24/17	MWF12-02 01/16/18	MWF16-05 10/25/17	MWF16-06 04/28/17
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	NA	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	NA	16 [17]	1 U	24	8 [10]	25	4	3	2	2	1	1 [1]	2	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	3	11
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	NA	NA	1 U	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	1 U [1 U]	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	NA	2 U [2 U]	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																				
1,4-Dioxane	7.2	350	--	2,800	29	NA	9.3	NA	6	3 U	3 U	5	NA	3	3 U	3 U	3 U	4 [4]	3 U	106
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																				
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF8-01 10/26/17	MWF12-01 05/19/16	MWF12-01 09/21/16	MWF12-01 04/26/17	MWF12-01 07/21/17	MWF12-01 10/24/17	MWF12-01 01/16/18	MWF12-02 09/21/16	MWF12-02 09/22/16	MWF12-02 04/26/17	MWF12-02 07/21/17	MWF12-02 10/24/17	MWF12-02 01/16/18	MWF16-05 10/25/17	MWF16-06 04/28/17
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWW10-09 05/19/16	MWOS-01 09/19/16	MWOS-01 10/24/17	MWOS-02 09/19/16	MWOS-02 10/24/17
Volatile Organics																				
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	2 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	2 U	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA
Iodomethane	--	--	--	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	90 U	NA	NA	NA	NA	NA	NA	NA	NA	90 U	NA	90 U	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	14 J	18 J	50 U	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	130 UY	25 U	25 U	0.94 J	25 U	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	3	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U	1 U	1 U [1 U]	1 U	1	1 U	37 Y	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	NA	1 U	NA	1 U
Cymene	--	--	--	--	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1 U	2	4 [5]	3	6	1 U	227 Y	5	11	1.0 U	2	1 U	1 U	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	27 Y	1 U	2.2	1.0 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U	5	14 [14]	15	19	1 U	5 UY	5	6.4	1.0 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U	1 U	1 U [1 U]	1 U	2	1 U	5 UY	2	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	10 U	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U	5 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	5.0 U	5.0 U	5 U	1 U	5 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	NA	10 U [10 U]	10 U	10 U	10 U	50 UY	10 U	10 U	10 U	NA	10 U	NA	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	NA	1 U	NA	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	3.5 J	2.4 J	50 U	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Styrene	100	100	170,000	80	800	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	11	76	1 UJ	1 U [1 U]	1 U	14	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWW10-09 05/19/16	MWOS-01 09/19/16	MWOS-01 10/24/17	MWOS-02 09/19/16	MWOS-02 10/24/17
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1	1 U	9	1 U [1 U]	14	9	2	5 UY	4	17	1.0 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	4	1 U	2 [2]	2	7	1 U	5 UY	9	0.68 J	1.0 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	NA	1 U	NA	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	10 UY	2 U	NA	NA	2 U	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	NA	NA	1 U	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	2.0 U	NA	NA	NA	NA
Volatile Organics-SIM																				
1,4-Dioxane	7.2	350	--	2,800	29	3 U	3 U	13	17 [18]	13	3 U	3 U	200 Y	3 U	0.67 J	NA	3 U	3	3 U	3 U
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2 U	NA	0.2 U
Semivolatile Organics																				
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2 U	3.8 U	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	9.6 U	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6 JB	1.8 JB	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	9.6 U	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2 U	3.8 U	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWW10-09 05/19/16	MWOS-01 09/19/16	MWOS-01 10/24/17	MWOS-02 09/19/16	MWOS-02 10/24/17
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 JB	0.81 JB	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.21 U	0.19 U	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 U	2.9 U	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWOS-03 09/19/16	MWW1-04 12/21/16	MWW1-04 04/19/17	MWW1-04 07/20/17	MWW1-04 10/25/17	MWW1-04 01/16/18	MWW10-SEN01 05/18/16	MWW10-SEN02 09/20/16	MWW10-SEN02 04/26/17	MWW10-SEN02 10/26/17	MWW01-SEN03 05/18/16	MWW01-SEN03 09/21/16	MWW01-SEN03 04/27/17
Volatile Organics																		
1,2,3-Trimethylbenzene	--	--	--	--	2,400	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
2-Methylnaphthalene	260	750	25,000	19	940	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Acrylonitrile	2.6	11	34,000	2	130	2 U	NA	NA	NA	NA	NA	NA	2 U	NA	NA	NA	2 U	NA
Hexachloroethane	7.3	21	27,000	6.7	44	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Iodomethane	--	--	--	--	--	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	90 U	NA	NA	NA	NA	NA	NA	90 U	NA	NA	NA	90 U	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	17 J	50 U	50 U	50 U	19 J	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	0.77 J	1	1 U
Bromobenzene	18	50	180,000	--	1,200	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U [25 U]	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	1.8 J	25 U	25 U
n-Butylbenzene	80	230	--	--	91	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
sec-Butylbenzene	80	230	--	--	16	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
tert-Butylbenzene	80	230	--	--	37	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5.0 U	5 U	5 U	5 U	5.0 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.8	5 U	5 U	5 U	1.0 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	NA	1 U	1 U	0.87 J	NA	1 U
Cymene	--	--	--	--	--	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Dibromomethane	80	230	--	--	--	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5.0 U	5 U	5 U	5 U	5.0 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	10 U	NA	NA	NA	NA	NA	NA	10 U	NA	NA	NA	10 U	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	5 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	5.0 U	5 U	1 U	1 U	5.0 U	5 U	1 U
Methyl acetate	--	--	--	--	--	NA	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	NA	1 U	1 U	1.1	NA	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	3.5 J	50 U	50 U	50 U	3.1 J	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5.0 U	5 U	5 U	5 U	5.0 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
n-Propylbenzene	80	230	--	--	92	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Styrene	100	100	170,000	80	800	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWOS-03 09/19/16	MWW1-04 12/21/16	MWW1-04 04/19/17	MWW1-04 07/20/17	MWW1-04 10/25/17	MWW1-04 01/16/18	MWW10-SEN01 05/18/16	MWW10-SEN02 09/20/16	MWW10-SEN02 04/26/17	MWW10-SEN02 10/26/17	MWW01-SEN03 05/18/16	MWW01-SEN03 09/21/16	MWW01-SEN03 04/27/17
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.0 U	5 U	5 U	5 U	1.0 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	NA	1 U	1 U	1.0 U	NA	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U [2 U]	2 U	2 U	2 U [2 U]	2 U	NA	2 U	2 U	2 U	NA	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	NA	1 U	1 U	1 U	NA	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
Volatile Organics-SIM																		
1,4-Dioxane	7.2	350	--	2,800	29	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	NA	14	16	11	NA	10	19
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																		
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	3.8 U	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	9.6 U	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	9.6 U	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	3.8 U	NA	NA	NA	NA	NA	NA

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Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.40 JB	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	0.25 J	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	0.19 U	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	2.9 U	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	NA	NA	NA	NA

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Volatile Organics																			
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	2 U	NA	2 U	NA	NA	NA	2 U	NA	2 U	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	90 U	NA	90 U	NA	NA	NA	90 U	NA	90 U	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	25	50 U	15 J	50 U	13 J	20 J	NA	50 U	16 J	50 U	25	50 U	NA
Benzene	5	5	5,600	200	27	1	1.0 U	1 U	1.0 U	1 U	1.0 U	3.7	NA	2	1.0 U	1 U	0.56 J	1 U	NA
Bromobenzene	18	50	180,000	--	1,200	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Bromoform	80	80	470,000	--	2,100	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Bromomethane	10	29	4,000	35	33	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	0.57 J	25 U	25 U	25 U	25 U	1.8 J	NA	25 U	25 U	25 U	0.93 J	25 U	NA
n-Butylbenzene	80	230	--	--	91	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5.0 U	5 U	5.0 U	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
CFC-12	1,700	4,800	220,000	--	--	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
Chlorobenzene	100	100	210,000	25	1,100	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Chlorobromomethane	--	--	--	--	--	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	1.0 U	5 U	1.0 U	33	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	15	5 U	NA
Chloroform	80	80	28,000	350	140	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Chloromethane	260	1,100	8,600	--	220	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
Cyclohexane	--	--	--	--	1,900	2	1.0 U	NA	1.0 U	NA	1.0 U	0.76 J	NA	NA	1.0 U	NA	1.0 U	1 U	NA
Cymene	--	--	--	--	--	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Dibromomethane	80	230	--	--	--	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	0.84 J	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	4	1.0 U	1 U	2.4	1 U	NA
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	0.33 J	NA	4	1.0 U	1 U	0.36 J	1 U	NA
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Dichloromethane	5	5	220,000	1,500	--	5 U	5.0 U	5 U	5.0 U	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	10 U	NA	10 U	NA	NA	NA	10 U	NA	10 U	NA	NA	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	0.85 J	NA	2	1.0 U	1 U	2.4	1 U	NA
Isopropylbenzene	800	2,300	56,000	28	11	1 U	5.0 U	5 U	5.0 U	5 U	5.0 U	0.49 J	NA	5 U	5.0 U	5 U	0.46 J	1 U	NA
Methyl acetate	--	--	--	--	--	10 U	10 U	NA	10 U	NA	10 U	10 U	NA	NA	10 U	NA	10 U	10 U	NA
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U	50 U	NA
Methylcyclohexane	--	--	--	--	--	1	1.0 U	NA	1.0 U	NA	1.0 U	1.0	NA	NA	1.0 U	NA	1.0 U	1 U	NA
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	2.9 J	50 U	3.6 J	50 U	3.9 J	3.9 J	NA	50 U	2.6 J	50 U	3.9 J	50 U	NA
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5.0 U	5 U	5.0 U	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Styrene	100	100	170,000	80	800	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Tetrachloroethene	5	5	25,000	60	94	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Toluene	790	790	530,000	270	36,000	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	0.93 J	NA	26	1.0 U	1 U	3.4	1 U	NA
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	5 U	NA	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA

See Notes on last page.

Table 2
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWW01-SEN03 10/27/17	MWW01-SEN04 05/18/16	MWW01-SEN04 09/20/16	MWW5-01 05/19/16	MWW5-01 09/20/16	MWW10-04 05/18/16	SB-62-14 05/19/16	TW01-03 09/20/16	TW01-03 09/20/16	TW03-01 05/19/16	TW10-01 09/19/16	TW10-02 05/18/16	TW-MD-01 12/21/16	TW-MD-01 12/21/16
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	1.0 U	5 U	1.0 U	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA
Trichloroethene	5	5	2,200	200	9.8	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	0.24 J	1 U	NA
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	NA	1.0 U	NA	1.0 U	1 U	NA
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	1 U	NA	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	NA	2	1.0 U	1 U	1.0 U	1 U	NA
m&p-Xylene	--	--	--	--	--	2 U	NA	2 U	NA	2 U	NA	NA	NA	4	NA	2 U	NA	2 U	NA
o-Xylene	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	3	NA	1 U	NA	1 U	NA
Total Xylenes	280	280	190,000	41	10,000	NA	2.0 U	NA	2.0 U	NA	2.0 U	2.1	NA	NA	2.0 U	NA	14	NA	NA
Volatile Organics-SIM																			
1,4-Dioxane	7.2	350	--	2,800	29	26	NA	3 U	NA	10	2.0 U	NA	38	NA	NA	3	62	NA	5 UB
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																			
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	3.8 U	NA	NA	3.8 U	NA	15 U	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	9.6 U	NA	NA	9.6 U	NA	37 U	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	1.4 J	NA	NA	2.5 J	NA	19 U	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	0.24 J	NA	NA	4.8 U	NA	19 U	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	0.31 J	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	0.34 J	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	0.55 J	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
bis(2-Ethylhexyl)phtalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	2.4 JB	NA	NA	4.8 U	NA	19 U	NA	NA
Butylbenzylphtalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	9.6 U	NA	NA	9.6 U	NA	37 U	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	0.39 J	NA	NA	0.96 U	NA	3.7 U	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	3.8 U	NA	NA	3.8 U	NA	15 U	NA	NA

See Notes on last page.

Table 2
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	MWW01-SEN03 10/27/17	MWW01-SEN04 05/18/16	MWW01-SEN04 09/20/16	MWW5-01 05/19/16	MWW5-01 09/20/16	MWW10-04 05/18/16	SB-62-14 05/19/16	TW01-03 09/20/16	TW01-03 09/20/16	TW03-01 05/19/16	TW10-01 09/19/16	TW10-02 05/18/16	TW-MD-01 12/21/16	TW-MD-01 12/21/16
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.89 JB	NA	NA	0.80 JB	NA	19 U	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	0.76 J	NA	NA	0.96 U	NA	3.7 U	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	0.24 J	NA	NA	1.1 J	NA	1.1 J	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	0.19 U	NA	NA	0.19 U	NA	0.74 U	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	2.9 U	NA	NA	2.9 U	NA	11 U	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	0.91 J	NA	NA	1.8 J	NA	7.4 U	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	0.86 J	NA	NA	4.8 U	NA	19 U	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	1.3 J	NA	NA	0.81 J	NA	3.5 J	NA	NA

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Pontiac North Campus



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Volatile Organics																		
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U	NA	25 U	NA	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	1 U	NA	1 U	NA	1 U	6	3	1 U	1 U [1 U]	2	7	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U	NA	1 U	NA	1 U	1	2	1 U	1 U [1 U]	1 U	2	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	170,000	80	800	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U	NA	1 U	NA	1 U	43	4	1 U	1 U [1 U]	5	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	TW-MD-01 04/26/17	TW-MD-03 12/20/16	TW-MD-03 12/20/16	TW-MD-05 12/20/16	TW-MD-05 12/20/16	TW-MD-07 12/20/16	Unknown-01 04/28/17	VAP-01-16 26 - 29 12/20/16	VAP-01-16 32 - 35 12/20/16	VAP-01-16 37 - 40 12/20/16	VAP-02-16 26 - 29 12/19/16	VAP-02-16 31 - 34 12/19/16	VAP-02-16 35 - 38 12/19/16
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 UJ
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1 U	NA	1 U	NA	1 U	56	14	1 U	1 U [1 U]	6	30	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U	NA	1 U	NA	1 U	3	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	NA	2 U	NA	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																		
1,4-Dioxane	7.2	350	--	2,800	29	3 U	NA	5 UB	NA	4 UB	3 U	3 U	28	12 J	3 U [3 U]	4	3 U	3 U
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																		
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	TW-MD-01 04/26/17	TW-MD-03 12/20/16	TW-MD-03 12/20/16	TW-MD-05 12/20/16	TW-MD-05 12/20/16	TW-MD-07 12/20/16	Unknown-01 04/28/17	VAP-01-16 26 - 29 12/20/16	VAP-01-16 32 - 35 12/20/16	VAP-01-16 37 - 40 12/20/16	VAP-02-16 26 - 29 12/19/16	VAP-02-16 31 - 34 12/19/16	VAP-02-16 35 - 38 12/19/16
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Volatile Organics																	
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	1 U	5 [4]	11	1 U	2	2	8	13	3	4	3	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U [1 U]	2	1 U	1 U	1 U	2	3	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	170,000	80	800	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U [1 U]	2	1 U	1 U	1 U	1	1	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	VAP-02-16 39 - 42 12/19/16	VAP-03-16 31 - 34 12/19/16	VAP-03-16 35 - 38 12/19/16	VAP-03-16 44 - 47 12/19/16	VAP-04-16 30 - 33 12/14/16	VAP-04-16 35 - 38 12/14/16	VAP-05-16 17 - 20 12/20/16	VAP-05-16 22 - 25 12/20/16	VAP-05-16 27 - 30 12/20/16	VAP-06-16 19 - 22 12/13/16	VAP-06-16 24 - 27 12/13/16	VAP-06-16 29 - 32 12/13/16
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	12 [9]	13	1 U	2	1 U	62	89	10	11	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																	
1,4-Dioxane	7.2	350	--	2,800	29	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	11	5	7	3 U	3 U	3 U
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics																	
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Volatile Organics														
1,2,3-Trimethylbenzene	--	--	--	--	2,400	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	2.6	11	34,000	2	130	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	95	270	6,900,000	11,000	12,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	730	2,100	1,000,000,000	1,700	8,200,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	5,600	200	27	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	18	50	180,000	--	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	4,800	--	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	470,000	--	2,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	29	4,000	35	33	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	13,000	38,000	240,000,000	2,200	4,300,000	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	80	230	--	--	91	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	80	230	--	--	16	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	80	230	--	--	37	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	800	2,300	250,000	--	2,400	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	370	45	7.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	2,600	7,300	1,100,000	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	1,700	4,800	220,000	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	210,000	25	1,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	14,000	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	430	1,700	5,700,000	1,100	44,000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	28,000	350	140	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	260	1,100	8,600	--	220	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	--	--	1,900	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	220	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	2,400	5.7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	80	230	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	160,000	13	7,600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	6.6	19	18,000	28	55	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	16,000	17	76	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	880	2,500	1,000,000	740	4,300	10	4	2	1 U	4	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	9,600	360	41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	200	130	4,300	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	93,000	620	83	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	85,000	1,500	360	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	220,000	1,500	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	16,000	230	69	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	10	10	6,100,000	--	470,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	110,000	18	700	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	2,300	56,000	28	11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl N-Butyl Ketone	1,000	2,900	4,200,000	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	1,800	5,200	20,000,000	--	1,100,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methyl tert-butyl ether	40	40	47,000,000	7,100	250,000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	80	230	--	--	92	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	170,000	80	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	77	320	15,000	--	69	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	8.5	35	12,000	78	59	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	25,000	60	94	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	790	790	530,000	270	36,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	--	--	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	VAP-07-16 18 - 21 12/13/16	VAP-07-16 22 - 25 12/13/16	VAP-07-16 26 - 29 12/13/16	VAP-08-16 20 - 23 12/12/16	VAP-08-16 23 - 26 12/12/16	VAP-08-16 27 - 30 12/12/16	VAP-09-16 17 - 20 12/09/16	VAP-09-16 21 - 24 12/09/16	VAP-09-16 24 - 27 12/09/16
1,2,4-Trichlorobenzene	70	70	300,000	99	140	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	660,000	89	17,000	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	17,000	330	96	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	2,200	200	9.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	42	120	8,300	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	170,000	170,000	170,000	32	1,800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	63	63	56,000	17	1,700	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	61,000	45	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1,100	13	2.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	190,000	41	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM														
1,4-Dioxane	7.2	350	--	2,800	29	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Trichloroethene	5	5	2,200	200	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organics														
1,1'-Biphenyl	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	730	2,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	120	470	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	73	210	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	370	1,000	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	7.7	32	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	45	130	490,000	18	78,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	260	750	25,000	19	940	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	20	58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.1	4.3	--	0.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	150	420	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1,300	3,800	4,200	38	55,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	52	150	3,900	--	15,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	1,500	4,400	6,100,000	--	2,300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	--	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.1	8.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	1.0	1.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	2	8.3	38,000	1.0	220	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	1,200	2,700	--	67	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	5,800	17,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	85	350	--	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.6	1.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	--	--	10,000	4	23	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	Residential Drinking Water	Non-Residential Drinking Water	Res GW Volatilization to Indoor Air Inhalation	Groundwater Surface Water Interface	Res Vapor Intrusion Groundwater Screening Levels	VAP-07-16 18 - 21 12/13/16	VAP-07-16 22 - 25 12/13/16	VAP-07-16 26 - 29 12/13/16	VAP-08-16 20 - 23 12/12/16	VAP-08-16 23 - 26 12/12/16	VAP-08-16 27 - 30 12/12/16	VAP-09-16 17 - 20 12/09/16	VAP-09-16 21 - 24 12/09/16	VAP-09-16 24 - 27 12/09/16
Diethyl phthalate	5,500	16,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	73,000	210,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	210	210	210	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	880	2,000	2,000	12	71,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	440	0.2	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	130	--	50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	7.3	21	27,000	6.7	44	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	2.0	2.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	770	3,100	--	1,300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	3.4	9.6	280,000	180	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	5.0	5.0	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	270	1,100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	52	150	1,000	2.0	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4,400	13,000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	--	410,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	520	1,500	31,000	11	240	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 2
Summary of Groundwater Analytical Results vs. 2013 MDEQ Criteria
RACER Trust
Pontiac North Campus

Notes:
All units are measured in micrograms per liter (µg/L).
Duplicate analyses are presented in brackets.
Red values exceed Michigan Groundwater Surface Water Interface criteria.
Yellow highlighted values exceed Michigan Residential Drinking Water criteria.
Orange highlighted values exceed Non-Residential Drinking Water criteria.
Values in italics exceed Residential Vapor Intrusion Groundwater Screening Levels.
Bold values exceed Residential Groundwater Volatilization to Indoor Air Inhalation.

Footnotes:
¹ Criteria listed are from Michigan Department of Environmental Quality (MDEQ) Operational Memorandum #1, Attachment #1, dated December 30, 2013 and the MDEQ Guidance Document for the Vapor Intrusion Pathway - Appendix D1 - Indoor Air, Soil Gas, Groundwater, and Soil Screening Values for the Vapor Intrusion Pathway Table, dated May 2013.
² Volatile Organics SIMs method was completed for a lower reporting limit than the standard method.

Abbreviations:
NA Not analyzed
SLs Screening Levels
U Compound analyzed for but not detected above the detection limit.
VI Vapor intrusion
Y Elevated reporting limit due to high target concentration.
µg/L micrograms per liter.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MW-01-17 04/26/17	MW-01-17 07/20/17	MW-01-17 10/26/17	MW-01-17 01/15/18	MW-02-17 04/21/17	MW-02-17 07/20/17	MW-02-17 10/23/17	MW-02-17 01/15/18	MW-40-99 09/20/16	MW-40-99 12/21/16	MW-40-99 10/26/17
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	NA	NA	NA	NA	NA	NA	90 U	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	1	12	14	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1 U	1 U	1 U	2	2 [2]	2	2	1 U	1 U	1 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	5 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	NA	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U

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Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MW-01-17 04/26/17	MW-01-17 07/20/17	MW-01-17 10/26/17	MW-01-17 01/15/18	MW-02-17 04/21/17	MW-02-17 07/20/17	MW-02-17 10/23/17	MW-02-17 01/15/18	MW-40-99 09/20/16	MW-40-99 12/21/16	MW-40-99 10/26/17
Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U	1 U	12	5 [5]	10	11	1 U	1 U	1 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	1 U	1 U	1 U	3 [4]	5	8	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U	1 U	1	2 [2]	2	2	1 U	1 U	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	NA	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3 U	3 U	3 U	3 U	3 U [3 U]	12	19	NA	3 U	3 U
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
2-Methylnaphthalene	24	76	66	19	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	2 U	NA	NA	NA	NA	NA	2 U	NA	NA	2 U
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
Iodomethane	--	--	--	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	90 U	NA	NA	NA	NA	NA	90 U	NA	NA	90 U
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U
Benzene	5	5	1	12	14	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
sec-Butylbenzene	590	1,900	270	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	2
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	NA	1 U	1 U	1 U	1 U	NA	NA	1 U	1 U	NA
Cymene	--	--	--	--	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1 U	1 U	1 U	1 U	1 U	NA	2	2	3	50
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1	20
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	5
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	10 U
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	5 U	1 U	1 U	1 U	1 U	NA	5 U	1 U	1 U	5 U
Methyl acetate	--	--	--	--	--	10 U	NA	10 U	10 U	10 U	10 U	NA	NA	10 U	10 U	NA
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	NA	1 U	1 U	1 U	1 U	NA	NA	1 U	1 U	NA
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U

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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MW-40-99 01/15/18	MWF1R 09/20/16	MWF1R 04/21/17	MWF1R 07/20/17	MWF1R 10/23/17	MWF1R 01/15/18	MWF7-01 05/19/16	MWF7-01 09/22/16	MWF7-01 04/21/17	MWF7-01 10/24/17	MWF7-02 09/22/16
Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
n-Propylbenzene	590	1,900	43	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1	34 J
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	1 U	1 U	1 U	1 U	NA	9	8	18	106
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	4
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	NA	1 U	1 U	1 U	1 U	NA	NA	1 U	1 U	NA
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	1 U	NA	NA	NA	NA	NA	1 U	NA	NA	1 U
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	4	18	3 U	20	4	22 [29]	NA	14	27	540 Y
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus

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Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	2 U	NA	NA	2 U	NA	NA	NA	2 U [2 U]	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
Iodomethane	--	--	--	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U [2 U]	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	90 U	NA	NA	90 U	NA	NA	NA	90 U [90 U]	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U [50 U]	50 U
Benzene	5	5	1	12	14	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Bromobenzene	47	150	62	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Bromoform	80	80	89	52	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	NA	25 U [25 U]	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 [1]	1 U	1 U	1 U	1 U	1 U	1	NA	1 U [1 U]	1 U
Chloromethane	220	1,100	15	110	160	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Cyclohexane	--	--	290	--	--	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U	1 U	NA	NA	1 U
Cymene	--	--	--	--	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,1-Dichloroethane	130	650	4.7	740	67	34	51 [52]	1 U	1 U	1 U	1 U	1 U	1 U	NA	3 [4]	4
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,1-Dichloroethene	7	7	18	130	170	9	14 [14]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1]	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	2	3 [3]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	10 U	NA	NA	10 U	NA	NA	NA	10 U [10 U]	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U [1 U]	5 U	1 U	1 U	5 U	1 U	1 U	NA	5 U [5 U]	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U [10 U]	NA	10 U	10 U	NA	10 U	10 U	NA	NA	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U [50 U]	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U	1 U	NA	NA	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	NA	50 U [50 U]	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Styrene	100	100	33	20	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Tetrachloroethene	5	5	1.5	11	96	27	26 [26]	1 UJ	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Toluene	790	790	300	270	23,000	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	5 U [5 U]	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	NA	5 U [5 U]	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	52	76 [78]	1 U	1 U	1 U	1 U	1 U	1 U	NA	16 [17]	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	3	4 [4]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U [1 U]	NA	1 U	1 U	NA	1 U	1 U	NA	NA	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U [1 U]	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
o-Xylene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U [1 U]	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	188	470 Y [480 Y]	3 U	3 U	3 U	NA	3 U	NA	9.3	NA	6
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF7-02 04/21/17	MWF7-02 10/24/17	MWF7-03 09/22/16	MWF7-03 04/27/17	MWF7-03 10/25/17	MWF8-01 09/21/16	MWF8-01 12/22/16	MWF8-01 10/26/17	MWF12-01 05/19/16	MWF12-01 09/21/16	MWF12-01 04/26/17
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF12-01 07/21/17	MWF12-01 10/24/17	MWF12-01 01/16/18	MWF12-02 09/21/16	MWF12-02 09/22/16	MWF12-02 04/26/17	MWF12-02 07/21/17	MWF12-02 10/24/17	MWF12-02 01/16/18	MWF16-05 10/25/17	MWF16-06 04/28/17
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	NA	2 U	2 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	NA	90 U	90 U	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Benzene	5	5	1	12	14	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	19
CFC-11	1,800	5,700	22	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	160
Chloromethane	220	1,100	15	110	160	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	5	2 [2]	3	2	1	1	1	2	2 [2]	1 U	167
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	2
1,1-Dichloroethene	7	7	18	130	170	1	1 U [1 U]	1	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	24
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	28
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	NA	10 U	10 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U [1 U]	1 U	5 U	5 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U [10 U]	10 U	NA	NA	10 U	10 U	10 U	10 U [10 U]	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	12	43
Toluene	790	790	300	270	23,000	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	NA	5 U	5 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	24	8 [10]	25	4	3	2	2	1	1 [1]	2	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	3	11
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U [1 U]	1 U	NA	NA	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3 U	5	NA	3	3 U	3 U	3 U	4 [4]	3 U	106
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF12-01 07/21/17	MWF12-01 10/24/17	MWF12-01 01/16/18	MWF12-02 09/21/16	MWF12-02 09/22/16	MWF12-02 04/26/17	MWF12-02 07/21/17	MWF12-02 10/24/17	MWF12-02 01/16/18	MWF16-05 10/25/17	MWF16-06 04/28/17
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWM10-09 05/19/16
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	2 U	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	10 UY	2 U	NA	NA
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	90 U	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	14 J	18 J
Benzene	5	5	1	12	14	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Bromobenzene	47	150	62	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	130 UY	25 U	25 U	0.94 J
n-Butylbenzene	270	870	44	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	3	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U [1 U]	1 U	1	1 U	37 Y	1 U	1.0 U	1.0 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
Cyclohexane	--	--	290	--	--	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Cymene	--	--	--	--	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Dibromomethane	18	57	8.8	--	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1 U	2	4 [5]	3	6	1 U	227 Y	5	11	1.0 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	27 Y	1 U	2.2	1.0 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	5	14 [14]	15	19	1 U	5 UY	5	6.4	1.0 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U [1 U]	1 U	2	1 U	5 UY	2	1.0 U	1.0 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U	5 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	5.0 U	5.0 U
Methyl acetate	--	--	--	--	--	10 U	10 U	NA	10 U [10 U]	10 U	10 U	10 U	50 UY	10 U	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	250 UY	50 U	3.5 J	2.4 J

See Notes on last page.

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Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWM10-09 05/19/16
Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	5.0 U	5.0 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Tetrachloroethene	5	5	1.5	11	96	11	76	1 UJ	1 U [1 U]	1 U	14	1 U	5 UY	1 U	1.0 U	1.0 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	30 UY	5 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1	1 U	9	1 U [1 U]	14	9	2	5 UY	4	17	1.0 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	4	1 U	2 [2]	2	7	1 U	5 UY	9	0.68 J	1.0 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U	NA	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	1.0 U	1.0 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	5 UY	1 U	NA	NA
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	2.0 U
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3 U	13	17 [18]	13	3 U	3 U	200 Y	3 U	0.67 J	NA
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2 U	3.8 U
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	9.6 U
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	21 U	19 U
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWF16-10 10/25/17	MWF16-11 10/25/17	MWF16-15 09/22/16	MWF16-15 04/27/17	MWF16-15 10/25/17	MWF16-16 10/25/17	MWF16-17 10/26/17	MWF16-19 04/28/17	MWF16-23 10/24/17	MWM2-04 05/18/16	MWM10-09 05/19/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6 JB	1.8 JB
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	9.6 U
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2 U	3.8 U
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 JB	0.81 JB
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.21 U	0.19 U
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 U	2.9 U
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 U	1.9 U
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	0.96 U
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.2 U	4.8 U

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWOS-01 09/19/16	MWOS-01 10/24/17	MWOS-02 09/19/16	MWOS-02 10/24/17	MWOS-03 09/19/16	MWW1-04 12/21/16	MWW1-04 04/19/17	MWW1-04 07/20/17	MWW1-04 10/25/17	MWW1-04 01/16/18	MWW10-SEN01 05/18/16
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	2 U	NA	2 U	NA	2 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U	2 U [2 U]	2 U	NA
Tetrahydrofuran	3,600	17,000	45,000	350	--	90 U	NA	90 U	NA	90 U	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	17 J
Benzene	5	5	1	12	14	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Bromobenzene	47	150	62	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U	25 U [25 U]	25 U	25 U
n-Butylbenzene	270	870	44	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1.8
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
Cyclohexane	--	--	290	--	--	NA	1 U	NA	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Cymene	--	--	--	--	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Dibromomethane	18	57	8.8	--	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	2	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	5 U	1 U	5 U	1 U	5 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	5 U
Methyl acetate	--	--	--	--	--	NA	10 U	NA	10 U	NA	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	50 U
Methylcyclohexane	--	--	--	--	--	NA	1 U	NA	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U [50 U]	50 U	3.5 J

See Notes on last page.

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Pontiac North Campus

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U	5 U [5 U]	5 U	1 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	NA	1 U	NA	1 U	NA	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U	1 U [1 U]	1 U	NA
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	0.2 U	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3	3 U	3 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	NA
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8 U
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.6 U
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 U
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWOS-01 09/19/16	MWOS-01 10/24/17	MWOS-02 09/19/16	MWOS-02 10/24/17	MWOS-03 09/19/16	MWW1-04 12/21/16	MWW1-04 04/19/17	MWW1-04 07/20/17	MWW1-04 10/25/17	MWW1-04 01/16/18	MWW10-SEN01 05/18/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.6 U
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 U
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8 U
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.40 JB
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 J
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.19 U
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 U
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 U
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96 U
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8 U

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWW10-SEN02 09/20/16	MWW10-SEN02 04/26/17	MWW10-SEN02 10/26/17	MWW01-SEN03 05/18/16	MWW01-SEN03 09/21/16	MWW01-SEN03 04/27/17	MWW01-SEN03 10/27/17	MWW01-SEN04 05/18/16	MWW01-SEN04 09/20/16	MWW5-01 05/19/16
Volatile Organics															
1,2,3-Trimethylbenzene	130	130	43	290	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
2-Methylnaphthalene	24	76	66	19	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	2 U	NA	NA	NA	2 U	NA	NA	NA	2 U	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
Iodomethane	--	--	--	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	NA	2 U	2 U	2 U	NA	2 U	NA
Tetrahydrofuran	3,600	17,000	45,000	350	--	90 U	NA	NA	NA	90 U	NA	NA	NA	90 U	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	19 J	50 U	50 U	50 U	25	50 U	15 J
Benzene	5	5	1	12	14	1 U	1 U	1 U	0.77 J	1	1 U	1	1.0 U	1 U	1.0 U
Bromobenzene	47	150	62	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	1.8 J	25 U	25 U	25 U	0.57 J	25 U	25 U
n-Butylbenzene	270	870	44	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
sec-Butylbenzene	590	1,900	270	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	5.0 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Chlorobromomethane	--	--	--	1,000	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
Cyclohexane	--	--	290	--	--	NA	1 U	1 U	0.87 J	NA	1 U	2	1.0 U	NA	1.0 U
Cymene	--	--	--	--	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Dibromomethane	18	57	8.8	--	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	5.0 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	10 U	NA	NA	NA	10 U	NA	NA	NA	10 U	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	5 U	1 U	1 U	5 U	5 U	1 U	1 U	5.0 U	5 U	5.0 U
Methyl acetate	--	--	--	--	--	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	NA	1 U	1 U	1.1	NA	1 U	1	1.0 U	NA	1.0 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	3.1 J	50 U	50 U	50 U	2.9 J	50 U	3.6 J

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	5.0 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
n-Propylbenzene	590	1,900	43	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,2,3-Trichlorobenzene	16	51	58	55	--	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	1 U	5 U	5 U	5 U	1.0 U	5 U	1.0 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	NA	1 U	1 U	1 U	NA	1 U	1 U	1.0 U	NA	1.0 U
1,2,4-Trimethylbenzene	63	63	25	17	440	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	1 U	NA	NA	NA	1 U	NA	NA	NA	1 U	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	1.0 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	NA
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	2 U	NA	NA	NA	2.0 U	NA	2.0 U
Volatile Organics-SIM															
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	14	16	11	NA	10	19	26	NA	3 U	NA
Semivolatile Organics															
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWW10-SEN02 09/20/16	MWW10-SEN02 04/26/17	MWW10-SEN02 10/26/17	MWW01-SEN03 05/18/16	MWW01-SEN03 09/21/16	MWW01-SEN03 04/27/17	MWW01-SEN03 10/27/17	MWW01-SEN04 05/18/16	MWW01-SEN04 09/20/16	MWW5-01 05/19/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

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RACER Trust
Pontiac North Campus



Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWW5-01 09/20/16	MWW10-04 05/18/16	SB-62-14 05/19/16	TW01-03 09/20/16	TW01-03 09/20/16	TW03-01 05/19/16	TW10-01 09/19/16	TW10-02 05/18/16	TW-MD-01 12/21/16	TW-MD-01 12/21/16	TW-MD-01 04/26/17
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	2 U	NA	NA	NA	2 U	NA	2 U	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	NA	NA	NA	4	NA	2 U	NA	2 U	NA	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	90 U	NA	NA	NA	90 U	NA	90 U	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	13 J	20 J	NA	50 U	16 J	50 U	25	50 U	NA	50 U
Benzene	5	5	1	12	14	1 U	1.0 U	3.7	NA	2	1.0 U	1 U	0.56 J	1 U	NA	1 U
Bromobenzene	47	150	62	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Bromoform	80	80	89	52	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	1.8 J	NA	25 U	25 U	25 U	0.93 J	25 U	NA	25 U
n-Butylbenzene	270	870	44	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
CFC-12	30	94	13	2,900	--	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
Chlorobenzene	100	100	33	25	540	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Chlorobromomethane	--	--	--	1,000	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
Chloroethane	240	760	620	170	6,700	33	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	15	5 U	NA	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Chloromethane	220	1,100	15	110	160	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
Cyclohexane	--	--	290	--	--	NA	1.0 U	0.76 J	NA	NA	1.0 U	NA	1.0 U	1 U	NA	1 U
Cymene	--	--	--	--	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Dibromomethane	18	57	8.8	--	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1.0 U	0.84 J	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1.0 U	1.0 U	NA	4	1.0 U	1 U	2.4	1 U	NA	1 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1.0 U	0.33 J	NA	4	1.0 U	1 U	0.36 J	1 U	NA	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	10 U	NA	NA	NA	10 U	NA	10 U	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1.0 U	0.85 J	NA	2	1.0 U	1 U	2.4	1 U	NA	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	5 U	5.0 U	0.49 J	NA	5 U	5.0 U	5 U	0.46 J	1 U	NA	1 U
Methyl acetate	--	--	--	--	--	NA	10 U	10 U	NA	NA	10 U	NA	10 U	10 U	NA	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	NA	50 U	50 U	50 U	50 U	50 U	NA	50 U
Methylcyclohexane	--	--	--	--	--	NA	1.0 U	1.0	NA	NA	1.0 U	NA	1.0 U	1 U	NA	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	3.9 J	3.9 J	NA	50 U	2.6 J	50 U	3.9 J	50 U	NA	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5.0 U	5.0 U	NA	5 U	5.0 U	5 U	5.0 U	5 U	NA	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Toluene	790	790	300	270	23,000	1 U	1.0 U	0.93 J	NA	26	1.0 U	1 U	3.4	1 U	NA	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	5 U	NA	NA	NA	5 U	NA	5 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	1.0 U	1.0 U	NA	5 U	1.0 U	5 U	1.0 U	5 U	NA	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	1.0 U	1 U	NA	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1.0 U	1.0 U	NA	1 U	1.0 U	1 U	0.24 J	1 U	NA	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	NA	1.0 U	1.0 U	NA	NA	1.0 U	NA	1.0 U	1 U	NA	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	1 U	NA	NA	NA	1 U	NA	1 U	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1.0 U	1.0 U	NA	2	1.0 U	1 U	1.0 U	1 U	NA	1 U
o-Xylene	--	--	--	--	--	1 U	NA	NA	NA	3	NA	1 U	NA	1 U	NA	1 U
Total Xylenes	280	280	75	49	1,200	NA	2.0 U	2.1	NA	NA	2.0 U	NA	14	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	10	2.0 U	NA	38	NA	NA	3	62	NA	5 UB	3 U
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	3.8 U	NA	NA	3.8 U	NA	15 U	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	9.6 U	NA	NA	9.6 U	NA	37 U	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	1.4 J	NA	NA	2.5 J	NA	19 U	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	19 U	NA	NA	19 U	NA	74 U	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	0.24 J	NA	NA	4.8 U	NA	19 U	NA	NA	NA

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	MWW5-01 09/20/16	MWW10-04 05/18/16	SB-62-14 05/19/16	TW01-03 09/20/16	TW01-03 09/20/16	TW03-01 05/19/16	TW10-01 09/19/16	TW10-02 05/18/16	TW-MD-01 12/21/16	TW-MD-01 12/21/16	TW-MD-01 04/26/17
Atrazine	3	3	--	7.3	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	0.31 J	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	0.34 J	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	0.55 J	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	0.66	3.3	6.8	0.79	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	2.4 JB	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	9.6 U	NA	NA	9.6 U	NA	37 U	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	0.39 J	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	3.8 U	NA	NA	3.8 U	NA	15 U	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	0.89 JB	NA	NA	0.80 JB	NA	19 U	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	0.76 J	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	0.24 J	NA	NA	1.1 J	NA	1.1 J	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	0.19 U	NA	NA	0.19 U	NA	0.74 U	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	1.9 U	NA	NA	1.9 U	NA	7.4 U	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	2.9 U	NA	NA	2.9 U	NA	11 U	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	0.91 J	NA	NA	1.8 J	NA	7.4 U	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	4.8 U	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	0.86 J	NA	NA	4.8 U	NA	19 U	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	0.96 U	NA	NA	0.96 U	NA	3.7 U	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	1.3 J	NA	NA	0.81 J	NA	3.5 J	NA	NA	NA

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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	TW-MD-03 12/20/16	TW-MD-03 12/20/16	TW-MD-05 12/20/16	TW-MD-05 12/20/16	TW-MD-07 12/20/16	Unknown-1 04/28/17	VAP-01-16 26 - 29 12/20/16	VAP-01-16 32 - 35 12/20/16	VAP-01-16 37 - 40 12/20/16	VAP-02-16 26 - 29 12/19/16	VAP-02-16 31 - 34 12/19/16
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	NA	2 U	NA	2 U	2 U	2 U	2 U	2 U [2 U]	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Benzene	5	5	1	12	14	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromoform	80	80	89	52	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	NA	25 U	NA	25 U	25 U	25 U	25 U	25 U [25 U]	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Chloromethane	220	1,100	15	110	160	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	NA	1 U	NA	1 U	6	3	1 U	1 U [1 U]	2	7
1,2-Dichloroethane	5	5	1.4	6	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	NA	1 U	NA	1 U	1	2	1 U	1 U [1 U]	1 U	2
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	NA	1 U	NA	1 U	43	4	1 U	1 U [1 U]	5	1 U
Toluene	790	790	300	270	23,000	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U [5 U]	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	NA	1 U	NA	1 U	56	14	1 U	1 U [1 U]	6	30
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	NA	1 U	NA	1 U	3	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	NA	1 U	NA	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	NA	5 UB	NA	4 UB	3 U	3 U	28	12 J	3 U [3 U]	4	3 U
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	TW-MD-03 12/20/16	TW-MD-03 12/20/16	TW-MD-05 12/20/16	TW-MD-05 12/20/16	TW-MD-07 12/20/16	Unknown-1 04/28/17	VAP-01-16 26 - 29 12/20/16	VAP-01-16 32 - 35 12/20/16	VAP-01-16 37 - 40 12/20/16	VAP-02-16 26 - 29 12/19/16	VAP-02-16 31 - 34 12/19/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 3
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	VAP-02-16 35 - 38 12/19/16	VAP-02-16 39 - 42 12/19/16	VAP-03-16 31 - 34 12/19/16	VAP-03-16 35 - 38 12/19/16	VAP-03-16 44 - 47 12/19/16	VAP-04-16 30 - 33 12/14/16	VAP-04-16 35 - 38 12/14/16	VAP-05-16 17 - 20 12/20/16	VAP-05-16 22 - 25 12/20/16	VAP-05-16 27 - 30 12/20/16	VAP-06-16 19 - 22 12/13/16
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U [2 U]	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	1	12	14	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U [25 U]	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	1 U	1 U	5 [4]	11	1 U	2	2	8	13	3	4
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U [1 U]	2	1 U	1 U	1 U	2	3	1 U	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U [1 U]	2	1 U	1 U	1 U	1	1	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 UJ	5 U	5 U [5 U]	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	12 [9]	13	1 U	2	1 U	62	89	10	11
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U [1 U]	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3 U	3 U [3 U]	3 U	3 U	3 U	3 U	11	5	7	3 U
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Summary of Groundwater Analytical Results vs. Draft 2017 MDEQ Criteria
RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	VAP-02-16 35 - 38 12/19/16	VAP-02-16 39 - 42 12/19/16	VAP-03-16 31 - 34 12/19/16	VAP-03-16 35 - 38 12/19/16	VAP-03-16 44 - 47 12/19/16	VAP-04-16 30 - 33 12/14/16	VAP-04-16 35 - 38 12/14/16	VAP-05-16 17 - 20 12/20/16	VAP-05-16 22 - 25 12/20/16	VAP-05-16 27 - 30 12/20/16	VAP-06-16 19 - 22 12/13/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	VAP-06-16 24 - 27 12/13/16	VAP-06-16 29 - 32 12/13/16	VAP-07-16 18 - 21 12/13/16	VAP-07-16 22 - 25 12/13/16	VAP-07-16 26 - 29 12/13/16	VAP-08-16 20 - 23 12/12/16	VAP-08-16 23 - 26 12/12/16	VAP-08-16 27 - 30 12/12/16	VAP-09-16 17 - 20 12/09/16	VAP-09-16 21 - 24 12/09/16	VAP-09-16 24 - 27 12/09/16
Volatile Organics																
1,2,3-Trimethylbenzene	130	130	43	290	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	1.3	6.8	4.6	0.21	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	5 (M); 1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iodomethane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrahydrofuran	3,600	17,000	45,000	350	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	5,300	17,000	50,000	1,700	12,000,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	5	5	1	12	14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	47	150	62	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	80	80	1.2	6.8	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80	89	52	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	120	380	5 (M); 2.1	4.2	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	2,400	11,000	2,600	2,200	--	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
n-Butylbenzene	270	870	44	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	590	1,900	270	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	590	1,900	1 (M); 0.077	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	440	1,800	92	1,000	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5	1 (M); 0.41	4.7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	1,800	5,700	22	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	30	94	13	2,900	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	100	100	33	25	540	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobromomethane	--	--	--	1,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	80	80	0.78	6.8	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	240	760	620	170	6,700	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	80	1 (M); 0.49	350	7.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	220	1,100	15	110	160	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	--	--	290	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.2	0.2 (M); 0.00045	0.24	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	0.05	0.05	0.13	0.17	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	18	57	8.8	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	370	13	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	12	38	2.6	28	52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	75	5.9	17	120	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	130	650	4.7	740	67	3	1 U	10	4	2	1 U	4	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	1.4	6	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	18	130	170	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	3.4	620	48	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	27	470	650	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane	5	5	79	47	3,900	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	2.6	9.1	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	--	3.3	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Diethyl Ether	1.2	1.2	1,200	14,000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	74	74	2.8	18	45	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	590	1,900	5 (M); 0.6	28	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	--	--	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl N-Butyl Ketone	30	94	660	9,700	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methylcyclohexane	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	300	940	720	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U

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Methyl tert-butyl ether	40	40	250	100	4,000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	590	1,900	5 (M); 4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	590	1,900	43	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	33	20	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	28	140	3.1	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	3.6	18	2.4	3.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	1.5	11	96	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	790	790	300	270	23,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	16	51	58	55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	70	5 (M); 3.8	80	95	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	200	200	180	89	8,600	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	1 (M); 0.00047	12	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	1 (M); 0.073	29	6.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	0.0075	0.12	1.9	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	160,000	170,000	840	32	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	63	63	25	17	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	72	18	45	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	2	1 (M); 0.12	0.25	0.96 (M)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	280	280	75	49	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics-SIM																
Trichloroethene	5	5	1 (M); 0.073	29	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	7.2	37	1,900	34	--	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Semivolatile Organics																
1,1'-Biphenyl	--	--	--	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	--	--	--	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	180	570	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	40	170	--	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	80	380	--	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120	380	--	380	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12	38	--	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1.1	5.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	470	1,500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	32	130	45	18	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	24	76	66	19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	800	3,800	--	76	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	12	38	0.12	56	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1.6	8.2	--	0.14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	2.4	7.6	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	400	1,700	--	7.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	3	9.4	--	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	--	--	--	25	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	360	1,100	3,900	38	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	360	1,100	65	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	3,200	13,000	8,700	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	43	43	43	1,900	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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RACER Trust
Pontiac North Campus

Location ID: Sample Depth: Date Collected:	MDEQ 2017 DRAFT Res DW	MDEQ 2017 DRAFT Non- Res DW	MDEQ 2017 DRAFT Tier 1 VI GW SLs	RULE 57 Values for Surface Water	MDEQ 2017 DRAFT Res GW VIA RIASLs	VAP-06-16 24 - 27 12/13/16	VAP-06-16 29 - 32 12/13/16	VAP-07-16 18 - 21 12/13/16	VAP-07-16 22 - 25 12/13/16	VAP-07-16 26 - 29 12/13/16	VAP-08-16 20 - 23 12/12/16	VAP-08-16 23 - 26 12/12/16	VAP-08-16 27 - 30 12/12/16	VAP-09-16 17 - 20 12/09/16	VAP-09-16 21 - 24 12/09/16	VAP-09-16 24 - 27 12/09/16
Atrazine	3	3	--	7.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	2.3	9.4	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	0.2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.5	1.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.26	0.26	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	0.8	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.66	3.3	6.8	0.79	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	6	6	--	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	80	330	--	6.9	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	2,000	9,400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	7.4	38	--	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	2	2	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.23	2.5	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	5.9	19	3,100	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	4,700	15,000	--	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	590	1,900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	27	110	--	9.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	22	22	22	240	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	240	260	--	1.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	240	760	1,700	12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	1	1	0.11	0.0003	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50	50	0.03	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	4.2	13	1.5	5.3	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.19	0.19	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	760	3,800	--	310	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	12	38	68	4.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	0.1	0.53	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	150	750	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	1	--	1.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	180	570	0.077	1.7	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1,200	5,700	--	450	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	140	140	140	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-Butadiene	5.9	19	0.32	0.053	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	590	1,900	4.2	11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Notes:

Yellow shaded values exceed 2017 DRAFT Residential Drinking Water criteria.
Orange shaded values exceed 2017 DRAFT Non-Residential Drinking Water criteria.
Bold values exceed 2017 DRAFT Tier 1 Vapor Intrusion Groundwater Screening Levels.
Red values exceed Rule 57 Water Quality Values for Surface Water.
Italic values exceed 2017 DRAFT Residential Groundwater Volatilization to Indoor Air Recommended Interim Action Screening Levels.
Duplicate analyses are presented in brackets
All units are measured in micrograms per liter (µg/L).

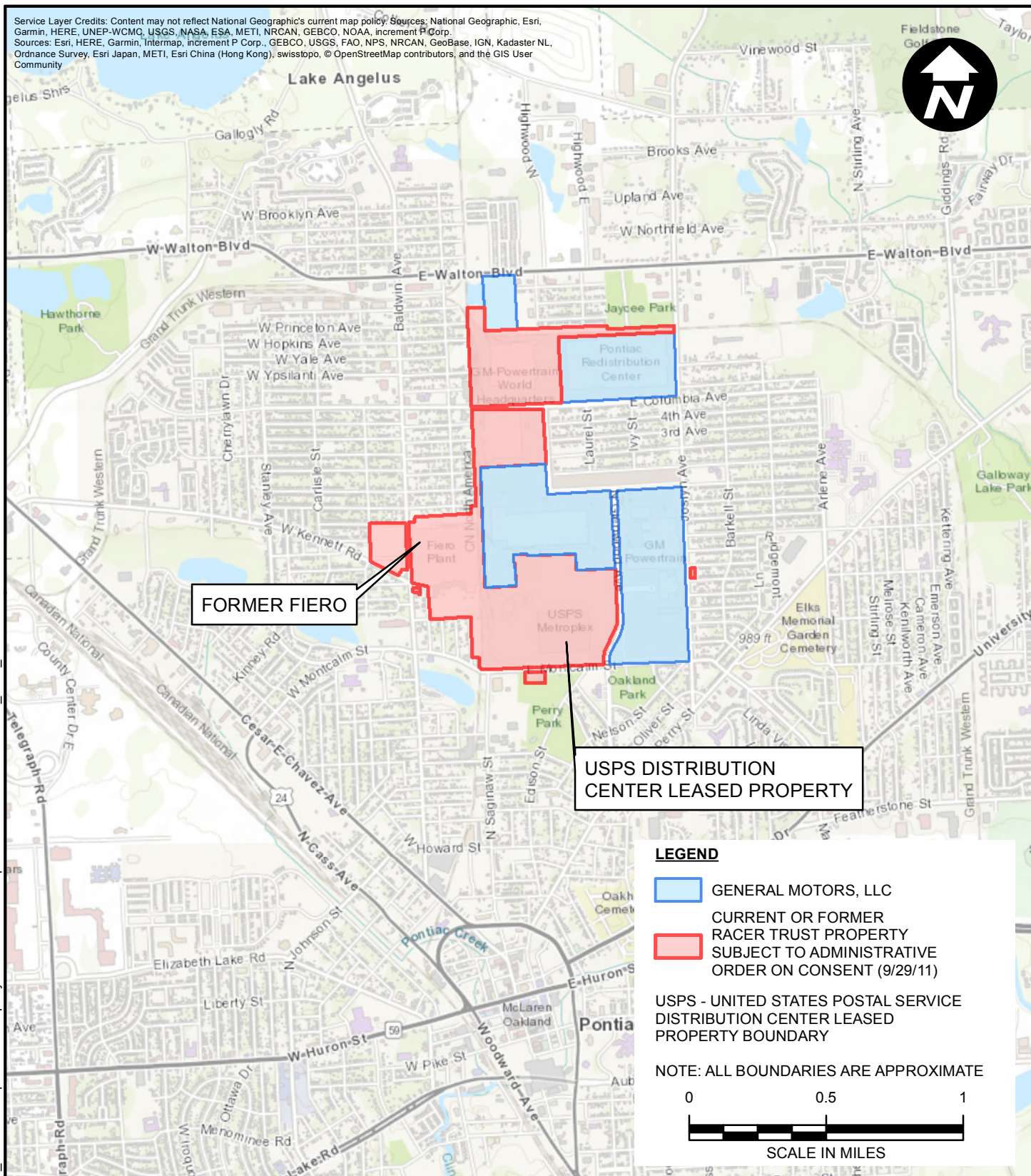
Footnotes:

- ¹ Criteria listed are from the Draft Proposed Michigan Department of Environmental Quality (MDEQ) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels and Table 4. VI Tier 1 Groundwater, Soil, and Vapor Screening Levels Part 201 Generic Screening Levels/Part 213 Risk-Based Screening Levels, August 29, 2017 as well as the minimum values from the Rule 57 Water Quality Values, Surface Water Assessment Section, Michigan DEQ dated 10/21/2016.
- ² The Residential Drinking Water criterion and the Residential Vapor Intrusion Screening criterion for 1,4-dioxane were established on October 27, 2016 and are no longer proposed criteria.
- ³ Volatile Organics SIMs method was completed for a lower reporting limit than the standard method.

Abbreviations:

- | | |
|----|--|
| B | Analyte was also detected in the associated method blank. |
| J | Indicates an estimated value. |
| M | Qualifier in Draft 2017 Tier 1 VISL: The calculated health-based value is below the analytical target detection limit, therefore, the target detection limit is the criterion. |
| M | Qualifier in Draft Res VIA RIASLs: Site-specific criterion may be below target detection limits (TDL). |
| NA | Not analyzed |
| U | Compound analyzed for but not detected above the detection limit. |
| VI | Vapor intrusion |
| Y | Elevated reporting limit due to high target concentration. |

FIGURES

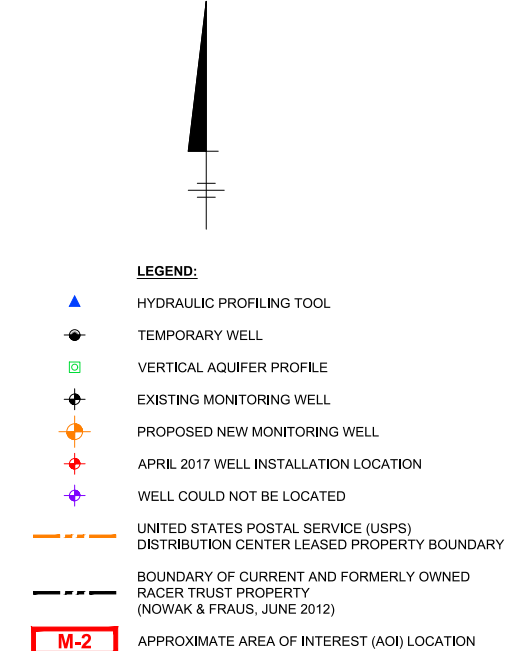


RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

SITE LOCATION

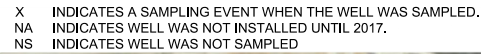
ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
1



SITE DETAIL



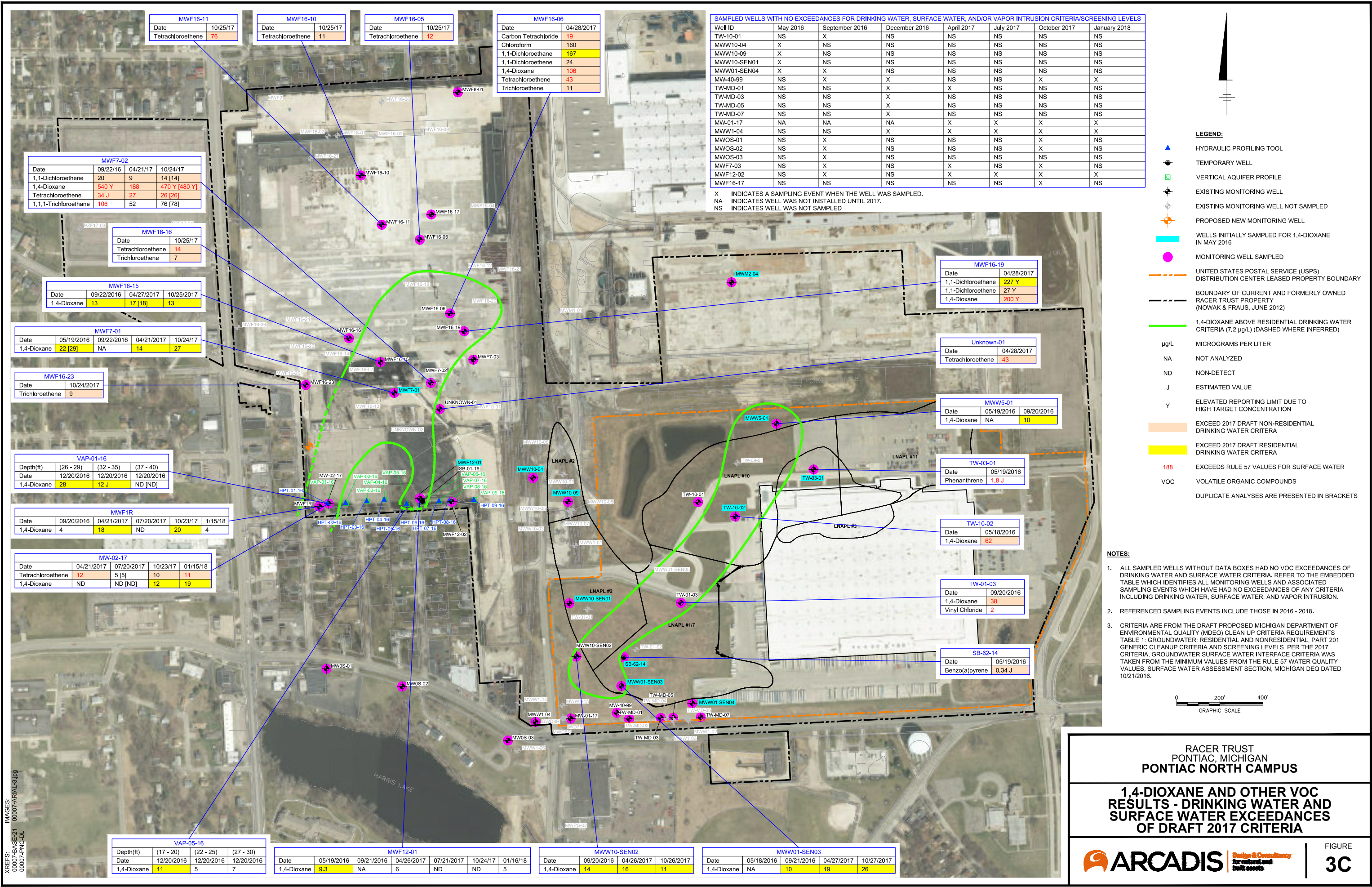


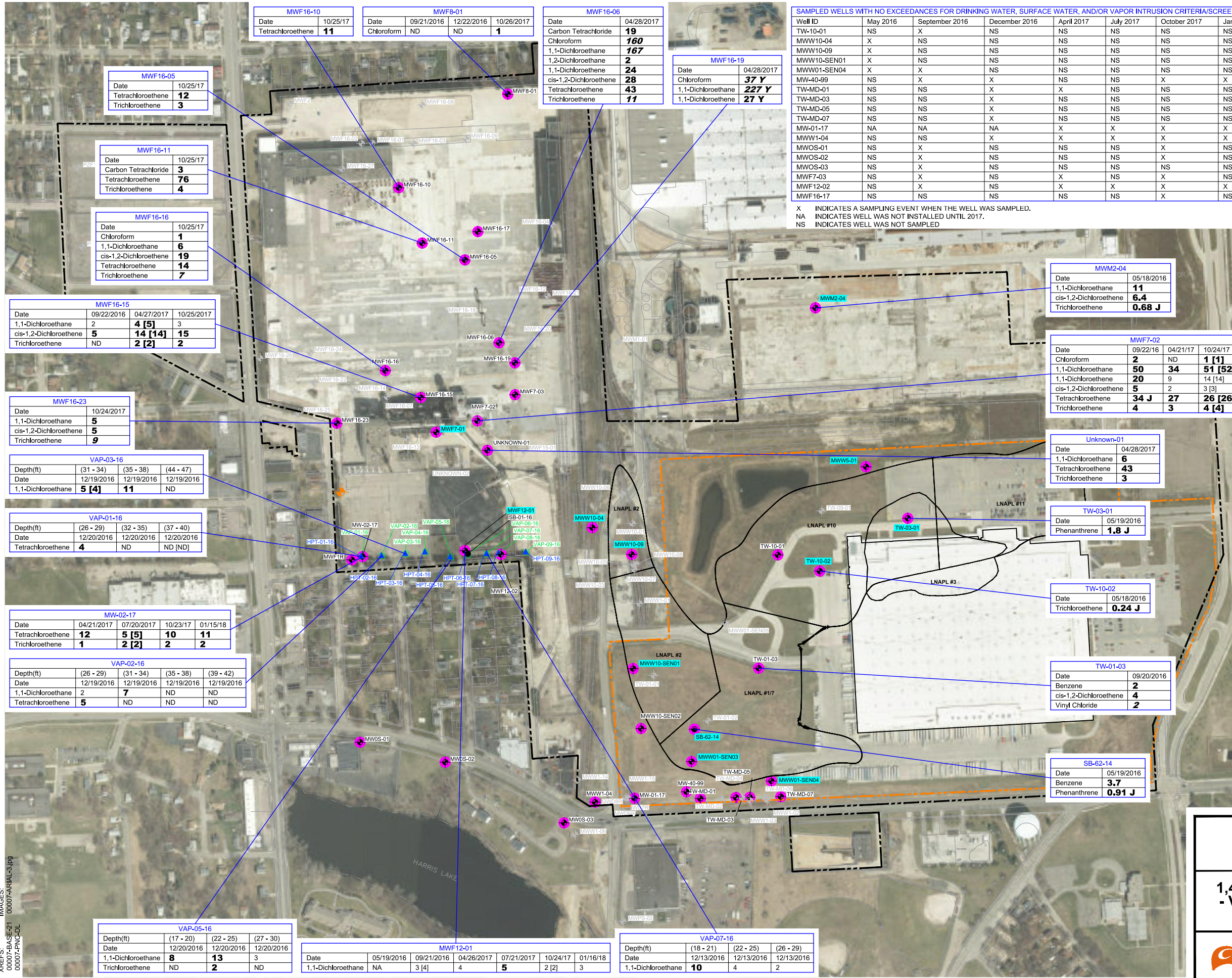
	HYDRAULIC PROFILING TOOL
	TEMPORARY WELL
	VERTICAL AQUIFER PROFILE
	EXISTING MONITORING WELL
	EXISTING MONITORING WELL NOT SAMPLED
	PROPOSED NEW MONITORING WELL
	WELLS INITIALLY SAMPLED FOR 1,4-DIOXANE IN MAY 2016
	MONITORING WELL SAMPLED
	UNITED STATES POSTAL SERVICE (USPS) DISTRIBUTION CENTER LEASED PROPERTY BOUNDARY
	BOUNDARY OF CURRENT AND FORMERLY OWNED RACER TRUST PROPERTY (NOWAK & FRAUS, JUNE 2012)
	1,4-DIOXANE ABOVE 2013 RESIDENTIAL VAPOR INTRUSION GROUNDWATER SCREENING LEVEL (29 µg/L)
µg/L	MICROGRAMS PER LITER
NA	NOT ANALYZED
ND	NON-DETECT
J	ESTIMATED VALUE
Y	ELEVATED REPORTING LIMIT DUE TO HIGH TARGET CONCENTRATION
<i>160</i>	EXCEEDS 2013 RESIDENTIAL VAPOR INTRUSION GROUNDWATER SCREENING LEVELS
VOC	VOLATILE ORGANIC COMPOUNDS
	DUPLICATE ANALYSES ARE PRESENTED IN BRACKETS

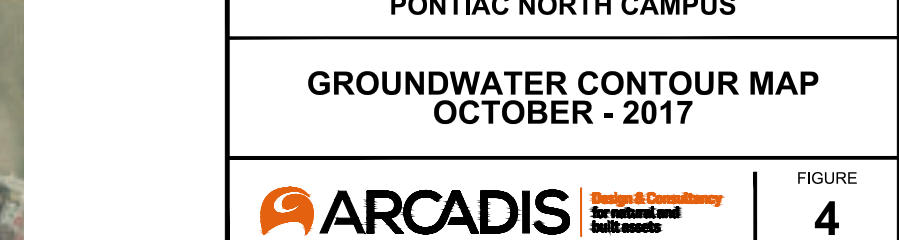
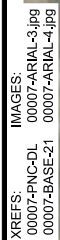
- NOTES:**
1. ALL SAMPLED WELLS WITHOUT DATA BOXES HAD NO VOC EXCEEDANCES OF VAPOR INTRUSION CRITERIA. REFER TO THE EMBEDDED TABLE WHICH IDENTIFIES ALL MONITORING WELLS AND ASSOCIATED SAMPLING EVENTS WHICH HAVE HAD NO EXCEEDANCES OF ANY CRITERIA INCLUDING DRINKING WATER, SURFACE WATER, AND VAPOR INTRUSION.
 2. REFERENCED SAMPLING EVENTS INCLUDE THOSE IN 2016 - 2018.
 3. CRITERIA ARE FROM MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ) OPERATIONAL MEMORANDUM #1, ATTACHMENT #1, DATED DECEMBER 30, 2013 AND THE MDEQ GUIDANCE DOCUMENT FOR THE VAPOR INTRUSION PATHWAY - APPENDIX D1 - INDOOR AIR, SOIL GAS, GROUNDWATER, AND SOIL SCREENING VALUES FOR THE VAPOR INTRUSION PATHWAY TABLE, DATED MAY 2013.
 4. NO 1,4-DIOXANE EXCEEDANCES OF THE 2013 RESIDENTIAL DRINKING WATER VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA WERE NOTED DURING THE SAMPLING EVENTS INCLUDED.



1,4-DIOXANE AND OTHER VOC RESULTS - VAPOR INTRUSION EXCEEDANCES OF 2013 CRITERIA



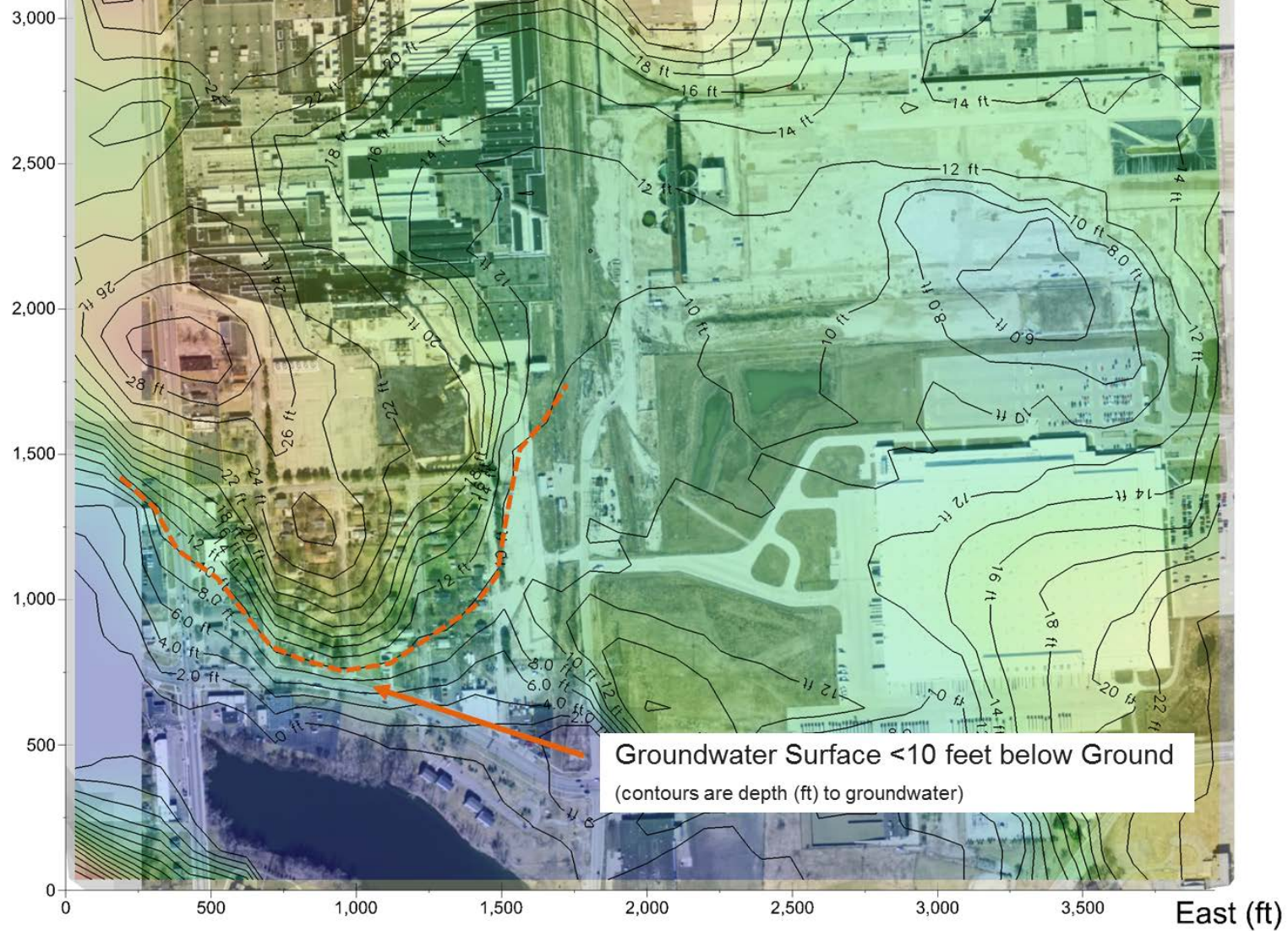




Attachment 1

Vadose Zone Thickness

North (ft)



RACER TRUST
PONTIAC, MICHIGAN
PONTIAC NORTH CAMPUS

VADOSE ZONE THICKNESS

Attachment 2

Laboratory Analytical Data – July 2017



Analytical Laboratory Report

Report ID: S82547.01(01)
Generated on 07/27/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Report produced by

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Contacts for report questions:

John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S82547.01-S82547.09
Project: PNC Racer
Collected Date: 07/20/2017 - 07/21/2017
Submitted Date/Time: 07/21/2017 14:30
Sampled by: Unknown
P.O. #: B0064607.2017

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (9 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S82547.01	MWF1R_GW-072017	Groundwater	07/20/17 10:57
S82547.02	MWF1R_GW-072017 MS	Groundwater	07/20/17 10:57
S82547.03	MWF1R_GW-072017 MSD	Groundwater	07/20/17 10:57
S82547.04	DUP-01	Groundwater	07/20/17 00:01
S82547.05	MW-02-17_GW-072017	Groundwater	07/20/17 14:37
S82547.06	MW-01-17_GW-072017	Groundwater	07/20/17 15:47
S82547.07	MWW1-04_GW-072017	Groundwater	07/20/17 17:12
S82547.08	MWF12-01_GW-072117	Groundwater	07/21/17 10:57
S82547.09	Trip Blank	Liquid	07/21/17 00:01



Analytical Laboratory Report

Lab Sample ID: S82547.01
Sample Tag: MWF1R_GW-072017
Collected Date/Time: 07/20/2017 10:57
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 13:12	JML	123-91-1	
--------------	--------------	------	---	---------------	----------------	-----	----------	--

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:48	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 00:48	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:48	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:48	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:48	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.01 (continued)

Sample Tag: MWF1R_GW-072017

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 00:48	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 00:48	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:48	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.02
Sample Tag: MWF1R_GW-072017 MS
Collected Date/Time: 07/20/2017 10:57
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	39	ug/L	3	SW8260B - SIM	07/26/17 11:30	JML	123-91-1	1
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/24/17 22:22	WAT	67-64-1	1
2-Butanone (MEK)	47	ug/L	25	SW5030C/8260C	07/24/17 22:22	WAT	78-93-3	1
Benzene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	71-43-2	1
Bromodichloromethane	54	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-27-4	1
Bromoform	54	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-25-2	1
Bromomethane	51	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	74-83-9	1
Carbon disulfide	42	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	75-15-0	1
Carbon tetrachloride	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	56-23-5	1
Chlorobenzene	50	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	108-90-7	1
Chloroethane	53	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	75-00-3	1
Chloroform	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	67-66-3	1
Chloromethane	54	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	74-87-3	1
1,2-Dibromo-3-chloropropane	53	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	96-12-8	1
1,2-Dichlorobenzene	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	95-50-1	1
1,2-Dichloroethane	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	107-06-2	1
1,2-Dichloropropane	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	78-87-5	1
1,3-Dichlorobenzene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	541-73-1	1
1,4-Dichlorobenzene	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	106-46-7	1
cis-1,2-Dichloroethene	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	156-59-2	1
Dibromochloromethane	53	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	124-48-1	1
Dichlorodifluoromethane	59	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	75-71-8	1
trans-1,2-Dichloroethene	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	156-60-5	1
Ethylbenzene	50	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	100-41-4	1
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/24/17 22:22	WAT	591-78-6	1
4-Methyl-2-pentanone (MIBK)	52	ug/L	50	SW5030C/8260C	07/24/17 22:22	WAT	108-10-1	1
tert-Methyl butyl ether (MTBE)	52	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	1634-04-4	1
Methylene chloride	53	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	75-09-2	1
Styrene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	100-42-5	1
1,1,1-Trichloroethane	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	71-55-6	1
1,1,2-Trichloroethane	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	79-00-5	1
1,2,4-Trichlorobenzene	51	ug/L	5	SW5030C/8260C	07/24/17 22:22	WAT	120-82-1	1
Tetrachloroethene	49	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	127-18-4	1
Toluene	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	108-88-3	1
Trichloroethene	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	79-01-6	1
Trichlorofluoromethane	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-69-4	1
Vinyl chloride	54	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S82547.02 (continued)

Sample Tag: MWF1R_GW-072017 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	50	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	95-47-6	1
p,m-Xylene*	101	ug/L	2	SW5030C/8260C	07/24/17 22:22	WAT		1
Isopropylbenzene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	98-82-8	1
Cyclohexane	29	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	110-82-7	1
1,1-Dichloroethane	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-34-3	1
1,1-Dichloroethene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	75-35-4	1
Methyl Acetate	44	ug/L	10	SW5030C/8260C	07/24/17 22:22	WAT	79-20-9	1
Methyl cyclohexane	34	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	39	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	76-13-1	1
1,2-Dibromoethane	52	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	106-93-4	1
1,1,2,2-Tetrachloroethane	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	79-34-5	1
cis-1,3-Dichloropropene	51	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	10061-01-5	1
trans-1,3-Dichloropropene	53	ug/L	1	SW5030C/8260C	07/24/17 22:22	WAT	10061-02-6	1

1-Spiked at 50ug/l



Analytical Laboratory Report

Lab Sample ID: S82547.03
Sample Tag: MWF1R_GW-072017 MSD
Collected Date/Time: 07/20/2017 10:57
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	38	ug/L	3	SW8260B - SIM	07/26/17 11:50	JML	123-91-1	1
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/24/17 22:43	WAT	67-64-1	1
2-Butanone (MEK)	48	ug/L	25	SW5030C/8260C	07/24/17 22:43	WAT	78-93-3	1
Benzene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	71-43-2	1
Bromodichloromethane	56	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-27-4	1
Bromoform	56	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-25-2	1
Bromomethane	52	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	74-83-9	1
Carbon disulfide	44	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	75-15-0	1
Carbon tetrachloride	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	56-23-5	1
Chlorobenzene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	108-90-7	1
Chloroethane	55	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	75-00-3	1
Chloroform	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	67-66-3	1
Chloromethane	56	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	74-87-3	1
1,2-Dibromo-3-chloropropane	55	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	96-12-8	1
1,2-Dichlorobenzene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	95-50-1	1
1,2-Dichloroethane	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	107-06-2	1
1,2-Dichloropropane	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	78-87-5	1
1,3-Dichlorobenzene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	541-73-1	1
1,4-Dichlorobenzene	52	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	106-46-7	1
cis-1,2-Dichloroethene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	156-59-2	1
Dibromochloromethane	55	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	124-48-1	1
Dichlorodifluoromethane	63	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	75-71-8	1
trans-1,2-Dichloroethene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	156-60-5	1
Ethylbenzene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	100-41-4	1
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/24/17 22:43	WAT	591-78-6	1
4-Methyl-2-pentanone (MIBK)	55	ug/L	50	SW5030C/8260C	07/24/17 22:43	WAT	108-10-1	1
tert-Methyl butyl ether (MTBE)	53	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	1634-04-4	1
Methylene chloride	56	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	75-09-2	1
Styrene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	100-42-5	1
1,1,1-Trichloroethane	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	71-55-6	1
1,1,2-Trichloroethane	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	79-00-5	1
1,2,4-Trichlorobenzene	53	ug/L	5	SW5030C/8260C	07/24/17 22:43	WAT	120-82-1	1
Tetrachloroethene	51	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	127-18-4	1
Toluene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	108-88-3	1
Trichloroethene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	79-01-6	1
Trichlorofluoromethane	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-69-4	1
Vinyl chloride	57	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S82547.03 (continued)

Sample Tag: MWF1R_GW-072017 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	53	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	95-47-6	1
p,m-Xylene*	107	ug/L	2	SW5030C/8260C	07/24/17 22:43	WAT		1
Isopropylbenzene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	98-82-8	1
Cyclohexane	33	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	110-82-7	1
1,1-Dichloroethane	56	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-34-3	1
1,1-Dichloroethene	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	75-35-4	1
Methyl Acetate	46	ug/L	10	SW5030C/8260C	07/24/17 22:43	WAT	79-20-9	1
Methyl cyclohexane	37	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	41	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	76-13-1	1
1,2-Dibromoethane	55	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	106-93-4	1
1,1,2,2-Tetrachloroethane	56	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	79-34-5	1
cis-1,3-Dichloropropene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	10061-01-5	1
trans-1,3-Dichloropropene	54	ug/L	1	SW5030C/8260C	07/24/17 22:43	WAT	10061-02-6	1

1-Spiked at 50ug/l



Analytical Laboratory Report

Lab Sample ID: S82547.04
Sample Tag: DUP-01
Collected Date/Time: 07/20/2017 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 13:33	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:09	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 01:09	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:09	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:09	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	100-42-5	
1,1,1-Trichloroethane	4	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:09	JML	120-82-1	
Tetrachloroethene	5	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	108-88-3	
Trichloroethene	2	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.04 (continued)

Sample Tag: DUP-01

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 01:09	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 01:09	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:09	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.05
Sample Tag: MW-02-17_GW-072017
Collected Date/Time: 07/20/2017 14:37
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 13:54	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:30	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 01:30	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:30	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:30	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	100-42-5	
1,1,1-Trichloroethane	3	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:30	JML	120-82-1	
Tetrachloroethene	5	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	108-88-3	
Trichloroethene	2	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.05 (continued)

Sample Tag: MW-02-17_GW-072017

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 01:30	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 01:30	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:30	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.06
Sample Tag: MW-01-17_GW-072017
Collected Date/Time: 07/20/2017 15:47
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 14:15	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:51	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 01:51	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:51	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 01:51	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 01:51	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.06 (continued)

Sample Tag: MW-01-17_GW-072017

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 01:51	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 01:51	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 01:51	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.07
Sample Tag: MWW1-04_GW-072017
Collected Date/Time: 07/20/2017 17:12
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 14:36	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 02:12	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 02:12	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 02:12	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 02:12	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 02:12	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.07 (continued)

Sample Tag: MWW1-04_GW-072017

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 02:12	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 02:12	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 02:12	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.08
Sample Tag: MWF12-01_GW-072117
Collected Date/Time: 07/21/2017 10:57
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 14:57	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 17:13	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 17:13	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 17:13	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 17:13	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	100-42-5	
1,1,1-Trichloroethane	24	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 17:13	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.08 (continued)

Sample Tag: MWF12-01_GW-072117

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 17:13	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	110-82-7	
1,1-Dichloroethane	5	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-34-3	
1,1-Dichloroethene	1	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 17:13	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 17:13	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S82547.09
Sample Tag: Trip Blank
Collected Date/Time: 07/21/2017 00:01
Matrix: Liquid
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/25/17 13:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 12:51	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:27	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/25/17 00:27	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:27	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/25/17 00:27	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/25/17 00:27	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82547.09 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/25/17 00:27	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/25/17 00:27	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/25/17 00:27	JML	10061-02-6	



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C.O.C. PAGE # 1 OF 1

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Theresa Olechiw
COMPANY Arcadis
ADDRESS 28550 Cabot Drive #500
CITY Novi STATE MI ZIP CODE 48377
PHONE NO. 810.225.1909 FAX NO. P.O. NO. B0064607.2017
E-MAIL ADDRESS Theresa.Olechiw@arcadis.com QUOTE NO.

CONTACT NAME Accounts Payable ☐ SAME
COMPANY Arcadis
ADDRESS 630 Plaza Drive Suite 600
CITY Highlands Ranch STATE CO ZIP CODE 80129
PHONE NO. E-MAIL ADDRESS accountspayable.administration@arcadis-us.com

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME PNC Racer SAMPLER(S) - PLEASE PRINT/SIGN NAME

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	* VOCs (8260)	1,4-dioxane (8260 SIMs)	Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES Project Locations ☐ Detroit ☐ New York ☒ Other Pontiac, MI Special Instructions
82547.01/02	7/20/17	1057	MWFIR-GW-072017	GW	9		X						X	X	*See attached VOC list *RL for 1,4-dioxane must be <7.2 ppb MS/MSD collected
.04	7/20/17	—	DUP-01	GW	3		X						X	X	
.05	7/20/17	1437	MW-02-17-GW-072017	GW	3		X						X	X	
.06	7/20/17	1547	MW-01-17-GW-072017	GW	3		X						X	X	
.07	7/20/17	1712	MWWI-04-GW-072017	GW	3		X						X	X	
.08	7/21/17	1057	MWF12-01-GW-072117	GW	3		X						X	X	
	7/21/17		MWF12-02-GW-072117	GW	3		X						X	X	
.09															

RELINQUISHED BY: SIGNATURE/ORGANIZATION *Ashley Riedel / Arcadis* DATE 7/21/17 TIME 12:00
RECEIVED BY: SIGNATURE/ORGANIZATION *John Miller* DATE 7/21/17 TIME 10:00
RELINQUISHED BY: SIGNATURE/ORGANIZATION *John Miller* DATE 7/21/17 TIME 14:30
RECEIVED BY: SIGNATURE/ORGANIZATION *M. Chalcov* DATE 7/21/17 TIME 14:30

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.9

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

Volatile Organic Compounds	
Acetone	
Benzene	
Bromodichloromethane	
Bromoform	
Bromomethane	
2-Butanone	
Carbon Disulfide	
Carbon Tetrachloride	
Chlorobenzene	
Chloroethane	
Chloroform	
Chloromethane	
Cumene	
Cyclohexane	
1,2-Dibromo-3-chloropropane	
Dibromochloromethane	
1,2-Dibromoethane	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Dichlorodifluoromethane	
1,1-Dichloroethane	
1,2-Dichloroethane	
1,1-Dichloroethene	
cis-1,2-Dichloroethene	
trans-1,2-Dichloroethene	
1,2-Dichloropropane	
1,3-Dichloropropene (summed)	
Ethyl Benzene	
2-Hexanone	
Methyl Acetate	
Methyl tert-butyl ether	
4-Methyl-2-pentanone	
Methylcyclohexane	
Methylene Chloride	
Styrene	
1,1,2,2-Tetrachloroethane	
Tetrachloroethene	
Toluene	
1,2,4-Trichlorobenzene	
1,1,1-Trichloroethane	
1,1,2-Trichloroethane	
Trichloroethene	
Trichlorofluoromethane	
1,1,2-Trichloro-1,2,2-trifluoroethane	
Vinyl Chloride	
Xylenes (total)	

Plus 1, 4
Dioxane

8260C
SIMS



Analytical Laboratory Report

Report ID: S82567.01(01)

Generated on 07/27/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Report produced by

Merit Laboratories, Inc.
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Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S82567.01
Project: PNC Racer
Collected Date: 07/21/2017
Submitted Date/Time: 07/24/2017 14:15
Sampled by: Unknown
P.O. #: B0064607.2017

Table of Contents

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Sample Summary (Page 5)

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

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S82567.01	MWF12-02_GW-072117	Groundwater	07/21/17 12:47



Analytical Laboratory Report

Lab Sample ID: S82567.01
Sample Tag: MWF12-02_GW-072117
Collected Date/Time: 07/21/2017 12:47
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	6.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	07/27/17 15:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	07/26/17 15:18	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	07/26/17 14:48	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	07/26/17 14:48	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	07/26/17 14:48	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	07/26/17 14:48	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	100-42-5	
1,1,1-Trichloroethane	2	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	07/26/17 14:48	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S82567.01 (continued)

Sample Tag: MWF12-02_GW-072117

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	07/26/17 14:48	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	110-82-7	
1,1-Dichloroethane	1	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	07/26/17 14:48	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	07/26/17 14:48	JML	10061-02-6	



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C.O.C. PAGE # 1 OF 1

INVOICE TO

CONTACT NAME		Accounts Payable		☐ SAME	
COMPANY Arcadis					
ADDRESS 630 Plaza Drive Suite 600					
CITY Highlands Ranch				STATE CO	ZIP CODE 80129
PHONE NO.		E-MAIL ADDRESS accounts payable.administration@arcadis-us.com			

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME PNC Racer			SAMPLER(S) - PLEASE PRINT/SIGN NAME									
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER												
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER												
MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE												
# Containers & Preservatives												
* VOCs (8260)												
1,4-dioxane (8260 SIMs)												
Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES												
Project Locations ☐ Detroit ☐ New York ☒ Other Pontiac, MI												
Special Instructions *See attached VOC list **RL for 1,4-dioxane must be <7.2 ppb												

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>Ashley Rife / KACAPIS</i>	Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	<i>MS</i>	DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 7/24/17		TIME 1415
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 7/24/17		TIME 1415
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 6.0	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev. 5.18.12

Volatile Organic Compounds	
Acetone	
Benzene	
Bromodichloromethane	
Bromoform	
Bromomethane	
2-Butanone	
Carbon Disulfide	
Carbon Tetrachloride	
Chlorobenzene	
Chloroethane	
Chloroform	
Chloromethane	
Cumene	
Cyclohexane	
1,2-Dibromo-3-chloropropane	
Dibromochloromethane	
1,2-Dibromoethane	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Dichlorodifluoromethane	
1,1-Dichloroethane	
1,2-Dichloroethane	
1,1-Dichloroethene	
cis-1,2-Dichloroethene	
trans-1,2-Dichloroethene	
1,2-Dichloropropane	
1,3-Dichloropropene (summed)	
Ethyl Benzene	
2-Hexanone	
Methyl Acetate	
Methyl tert-butyl ether	
4-Methyl-2-pentanone	
Methylcyclohexane	
Methylene Chloride	
Styrene	
1,1,2,2-Tetrachloroethane	
Tetrachloroethene	
Toluene	
1,2,4-Trichlorobenzene	
1,1,1-Trichloroethane	
1,1,2-Trichloroethane	
Trichloroethene	
Trichlorofluoromethane	
1,1,2-Trichloro-1,2,2-trifluoroethane	
Vinyl Chloride	
Xylenes (total)	

Plus 1, 4
Dioxane

8260C
SIMS

Attachment 3

Laboratory Analytical Data – October 2017



Analytical Laboratory Report

Report ID: S84663.01(01)
Generated on 10/30/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Additional Contacts: Christi Kiker, Matthew Williams, Trevor Swarthout

Report produced by

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Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S84663.01-S84663.13
Project: RACER PNC
Collected Date: 10/23/2017 - 10/24/2017
Submitted Date/Time: 10/24/2017 16:29
Sampled by: Voet / Reibel
P.O. #: B0064607.2017.00006

Table of Contents

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Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (13 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84663.01	MWM16-31_GW-102317	Groundwater	10/23/17 11:25
S84663.02	MWM16-37_GW-102317	Groundwater	10/23/17 13:45
S84663.03	MWM16-02_GW-102317	Groundwater	10/23/17 15:40
S84663.04	MWF1R_GW-102317	Groundwater	10/23/17 16:55
S84663.05	MWM16-30_GW-102317	Groundwater	10/23/17 11:17
S84663.06	MWM16-36_GW-102317	Groundwater	10/23/17 14:02
S84663.07	MWM32-01_GW-102317	Groundwater	10/23/17 15:32
S84663.08	MW-02-17_GW-102317	Groundwater	10/23/17 17:02
S84663.09	MWF7-01_GW-102417	Groundwater	10/24/17 09:25
S84663.10	MWF7-02_GW-102417	Groundwater	10/24/17 10:37
S84663.11	MWF16-23_GW-102417	Groundwater	10/24/17 11:10
S84663.12	DUP-01_GW-102417	Groundwater	10/24/17 00:01
S84663.13	Trip Blank	Water	10/24/17 00:01



Analytical Laboratory Report

Lab Sample ID: S84663.01

Sample Tag: MWM16-31_GW-102317

Collected Date/Time: 10/23/2017 11:25

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:21	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 14:21	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:21	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:21	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:21	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-69-4	
Vinyl chloride	3	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 14:21	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.01 (continued)

Sample Tag: MWM16-31_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 14:21	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:21	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.02

Sample Tag: MWM16-37_GW-102317

Collected Date/Time: 10/23/2017 13:45

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:43	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 14:43	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:43	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:43	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:43	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-69-4	
Vinyl chloride	4	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 14:43	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.02 (continued)

Sample Tag: MWM16-37_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 14:43	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:43	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.03

Sample Tag: MWM16-02_GW-102317

Collected Date/Time: 10/23/2017 15:40

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:05	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:05	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:05	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:05	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:05	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:05	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.03 (continued)

Sample Tag: MWM16-02_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:05	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:05	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.04

Sample Tag: MWF1R_GW-102317

Collected Date/Time: 10/23/2017 16:55

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	20	ug/L	3	SW8260B - SIM	10/25/17 18:05	JGH	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:28	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:28	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:28	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:28	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:28	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84663.04 (continued)

Sample Tag: MWF1R_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:28	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:28	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:28	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.05

Sample Tag: MWM16-30_GW-102317

Collected Date/Time: 10/23/2017 11:17

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:50	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:50	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:50	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:50	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	100-42-5	
1,1,1-Trichloroethane	10	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:50	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	108-88-3	
Trichloroethene	15	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:50	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.05 (continued)

Sample Tag: MWM16-30_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:50	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:50	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.06

Sample Tag: MWM16-36_GW-102317

Collected Date/Time: 10/23/2017 14:02

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:11	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:11	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:11	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:11	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:11	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:11	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.06 (continued)

Sample Tag: MWM16-36_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:11	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:11	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.07

Sample Tag: MWM32-01_GW-102317

Collected Date/Time: 10/23/2017 15:32

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:34	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:34	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:34	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:34	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:34	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:34	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.07 (continued)

Sample Tag: MWM32-01_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:34	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:34	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.08

Sample Tag: MW-02-17_GW-102317

Collected Date/Time: 10/23/2017 17:02

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	12	ug/L	3	SW8260B - SIM	10/25/17 18:26	JGH	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:56	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:56	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:56	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:56	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	100-42-5	
1,1,1-Trichloroethane	5	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:56	JML	120-82-1	
Tetrachloroethene	10	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	108-88-3	
Trichloroethene	2	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84663.08 (continued)

Sample Tag: MW-02-17_GW-102317

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:56	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:56	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:56	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.09

Sample Tag: MWF7-01_GW-102417

Collected Date/Time: 10/24/2017 09:25

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	27	ug/L	3	SW8260B - SIM	10/25/17 18:47	JGH	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:05	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 14:05	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:05	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:05	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	100-42-5	
1,1,1-Trichloroethane	18	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:05	JML	120-82-1	
Tetrachloroethene	1	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84663.09 (continued)

Sample Tag: MWF7-01_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 14:05	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	110-82-7	
1,1-Dichloroethane	3	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-34-3	
1,1-Dichloroethene	1	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 14:05	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:05	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.10

Sample Tag: MWF7-02_GW-102417

Collected Date/Time: 10/24/2017 10:37

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	470	ug/L	30	SW8260B - SIM	10/26/17 19:30	JML	123-91-1	Y
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:25	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 14:25	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	75-00-3	
Chloroform	1	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	106-46-7	
cis-1,2-Dichloroethene	3	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:25	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 14:25	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	100-42-5	
1,1,1-Trichloroethane	76	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 14:25	JML	120-82-1	
Tetrachloroethene	26	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	108-88-3	
Trichloroethene	4	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-01-4	

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84663.10 (continued)

Sample Tag: MWF7-02_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 14:25	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	110-82-7	
1,1-Dichloroethane	51	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-34-3	
1,1-Dichloroethene	14	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 14:25	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 14:25	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.11

Sample Tag: MWF16-23_GW-102417

Collected Date/Time: 10/24/2017 11:10

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	10/26/17 18:05	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:06	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:06	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	106-46-7	
cis-1,2-Dichloroethene	5	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	75-71-8	
trans-1,2-Dichloroethene	2	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:06	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:06	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	100-42-5	
1,1,1-Trichloroethane	4	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:06	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	108-88-3	
Trichloroethene	9	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84663.11 (continued)

Sample Tag: MWF16-23_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:06	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	110-82-7	
1,1-Dichloroethane	5	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:06	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:06	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.12

Sample Tag: DUP-01_GW-102417

Collected Date/Time: 10/24/2017 00:01

Matrix: Groundwater

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/26/17 12:00	JML		
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Organics - Volatiles

1,4-Dioxane*	480	ug/L	30	SW8260B - SIM	10/26/17 19:50	JML	123-91-1	Y
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:27	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:27	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	75-00-3	
Chloroform	1	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	106-46-7	
cis-1,2-Dichloroethene	3	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:27	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:27	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	100-42-5	
1,1,1-Trichloroethane	78	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:27	JML	120-82-1	
Tetrachloroethene	26	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	108-88-3	
Trichloroethene	4	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-01-4	

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84663.12 (continued)

Sample Tag: DUP-01_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:27	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	110-82-7	
1,1-Dichloroethane	52	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-34-3	
1,1-Dichloroethene	14	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:27	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:27	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84663.13

Sample Tag: Trip Blank

Collected Date/Time: 10/24/2017 00:01

Matrix: Water

COC Reference: 108725

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/30/17 13:15	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:07	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/27/17 13:07	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:07	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:07	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:07	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/27/17 13:07	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84663.13 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/27/17 13:07	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:07	JGH	10061-02-6	



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C.O.C. PAGE # 1 OF 1

108725

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Theresa Olechiw			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive Ste 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248-994-2240	FAX NO. 248-994-2241	P.O. NO. B0064607.2017.000006	
E-MAIL ADDRESS theresa.olechiw@arcadis.com		QUOTE NO.	

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

PROJECT NO./NAME RACER PNC	SAMPLER(S) - PLEASE PRINT/SIGN NAME Karlyn Voet
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER	

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
	DATE	TIME										
8463.01	10/23/17	1125	MWM16-31-GW-102317	GW	3		3					
02	10/23/17	1345	MWM16-37-GW-102317	GW	3		3					
03	10/23/17	1540	MWM16-02-GW-102317	GW	3		3					
04	10/23/17	1655	MWF1R-GW-102317	GW	3		3					
05	10/23/17	1117	MWM16-30-GW-102317	GW	3		3					
06	10/23/17	1402	MWM16-36-GW-102317	GW	3		3					
07	10/23/17	1532	MWM32-01-GW-102317	GW	3		3					
08	10/23/17	1702	MW-02-17-GW-102317	GW	3		3					
09	10/24/17	0925	MWF7-01-GW-102417	GW	3		3					
10	10/24/17	1037	MWF7-02-GW-102417	GW	3		3					
11	10/24/17	1110	MWF16-23-GW-102417	GW	3		3					
112	10/24/17	-	DUP-01-GW-102417	GW	3		3					

VOC 8260
1,4 Dioxane 8260sing

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other

Special Instructions

*see attached VOC list

1.B + Trip Blank to be analyzed for VOC

RELINQUISHED BY: Karlyn Voet Arcadis	☒ Sampler	DATE 10/24/17	TIME 1300
SIGNATURE/ORGANIZATION		DATE 10/24/17	TIME 1300
RECEIVED BY: J. M. Helle		DATE 10/24/17	TIME 10:25
SIGNATURE/ORGANIZATION		DATE 10/24/17	TIME 1629
RECEIVED BY: M. Chilcote		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:	DATE	TIME
SIGNATURE/ORGANIZATION		
RECEIVED BY:	DATE	TIME
SIGNATURE/ORGANIZATION		
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
NOTES:		TEMP. ON ARRIVAL 4.5



Analytical Laboratory Report

Report ID: S84679.01(01)
Generated on 11/06/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
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Report Summary

Lab Sample ID(s): S84679.01-S84679.10
Project: RACER PNC
Collected Date: 10/24/2017 - 10/25/2017
Submitted Date/Time: 10/25/2017 14:40
Sampled by: Kaitlyn Voet
P.O. #: B0064607.2017.00006

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
E608	EPA Method 608
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84679.01	MWF12-02_GW-102417	Groundwater	10/24/17 17:12
S84679.02	MWF12-01_GW-102417	Groundwater	10/24/17 17:07
S84679.03	MWOS-01_GW-102417	Groundwater	10/24/17 14:17
S84679.04	MWOS-02_GW-102417	Groundwater	10/24/17 13:02
S84679.05	MWM31-02_GW-102417	Groundwater	10/24/17 15:52
S84679.06	DUP-02_GW-102417	Groundwater	10/24/17 00:01
S84679.07	MWM16-29_GW-102517	Groundwater	10/25/17 10:22
S84679.08	MWW1-04_GW-102517	Groundwater	10/25/17 12:07
S84679.09	DUP-03_GW-102517	Groundwater	10/25/17 00:01
S84679.10	Trip Blank	Liquid	10/25/17 00:01



Analytical Laboratory Report

Lab Sample ID: S84679.01

Sample Tag: MWF12-02_GW-102417

Collected Date/Time: 10/24/2017 17:12

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR
1	125ml Plastic	HNO3	Yes	3.1	IR

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

Metal Digestion	Completed			SW3015A	10/31/17 11:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		

Metals

Manganese	0.808	mg/L	0.005	E200.8	10/31/17 12:54	CCM	7439-96-5	
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	10/26/17 18:26	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:47	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 15:47	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:47	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 15:47	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	100-42-5	
1,1,1-Trichloroethane	1	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 15:47	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	127-18-4	



Analytical Laboratory Report

Lab Sample ID: S84679.01 (continued)

Sample Tag: MWF12-02_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 15:47	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 15:47	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 15:47	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.02

Sample Tag: MWF12-01_GW-102417

Collected Date/Time: 10/24/2017 17:07

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR
1	125ml Plastic	HNO3	Yes	3.1	IR

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

Metal Digestion	Completed			SW3015A	10/31/17 11:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		

Metals

Manganese	17.8	mg/L	0.005	E200.8	10/31/17 12:56	CCM	7439-96-5	
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	10/26/17 18:47	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:08	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:08	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:08	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:08	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	100-42-5	
1,1,1-Trichloroethane	8	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:08	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	127-18-4	



Analytical Laboratory Report

Lab Sample ID: S84679.02 (continued)

Sample Tag: MWF12-01_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:08	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:08	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:08	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.03

Sample Tag: MWOS-01_GW-102417

Collected Date/Time: 10/24/2017 14:17

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	3	ug/L	3	SW8260B - SIM	11/05/17 01:39	JML	123-91-1	
Trichloroethene*	Not detected	ug/L	0.2	SW8260B - SIM	11/05/17 01:39	JML	79-01-6	

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:28	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:28	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:28	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:28	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:28	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	108-88-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84679.03 (continued)

Sample Tag: MWOS-01_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:28	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:28	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:28	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.04

Sample Tag: MWOS-02_GW-102417

Collected Date/Time: 10/24/2017 13:02

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/05/17 01:00	JML	123-91-1	
Trichloroethene*	Not detected	ug/L	0.2	SW8260B - SIM	11/05/17 01:00	JML	79-01-6	

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:49	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 16:49	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:49	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 16:49	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 16:49	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	108-88-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84679.04 (continued)

Sample Tag: MWOS-02_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 16:49	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 16:49	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 16:49	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.05

Sample Tag: MWM31-02_GW-102417

Collected Date/Time: 10/24/2017 15:52

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:09	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 17:09	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:09	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:09	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:09	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 17:09	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84679.05 (continued)

Sample Tag: MWM31-02_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 17:09	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:09	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.06

Sample Tag: DUP-02_GW-102417

Collected Date/Time: 10/24/2017 00:01

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:30	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 17:30	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:30	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:30	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	100-42-5	
1,1,1-Trichloroethane	10	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:30	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 17:30	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84679.06 (continued)

Sample Tag: DUP-02_GW-102417

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 17:30	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:30	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.07

Sample Tag: MWM16-29_GW-102517

Collected Date/Time: 10/25/2017 10:22

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:51	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 17:51	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:51	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 17:51	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 17:51	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 17:51	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84679.07 (continued)

Sample Tag: MWM16-29_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 17:51	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 17:51	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.08

Sample Tag: MWW1-04_GW-102517

Collected Date/Time: 10/25/2017 12:07

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR
1	125ml Plastic	HNO3	Yes	3.1	IR
1	1L Amber	None	Yes	3.1	IR

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

Extraction, PCB	Completed			SW3510C	10/30/17 12:33	MJS		
Metal Digestion	Completed			SW3015A	10/26/17 12:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		

Metals

Antimony	0.005	mg/L	0.005	E200.8	10/26/17 14:33	JRH	7440-36-0	
Vanadium	0.045	mg/L	0.005	E200.8	10/26/17 14:33	JRH	7440-62-2	

Organics - PCBs/Pesticides

PCB

PCB-1016	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	12674-11-2	
PCB-1221	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	11104-28-2	
PCB-1232	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	11141-16-5	
PCB-1242	0.1	ug/L	0.1	E608	10/30/17 20:23	JAN	53469-21-9	
PCB-1248	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	12672-29-6	
PCB-1254	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	11097-69-1	
PCB-1260	Not detected	ug/L	0.1	E608	10/30/17 20:23	JAN	11096-82-5	
PCB, Total*	0.1	ug/L	0.1	E608	10/30/17 20:23	JAN	1336-36-3	

Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/05/17 01:21	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:11	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 18:11	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	106-46-7	



Analytical Laboratory Report

Lab Sample ID: S84679.08 (continued)

Sample Tag: MWW1-04_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:11	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:11	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:11	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 18:11	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 18:11	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:11	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.09

Sample Tag: DUP-03_GW-102517

Collected Date/Time: 10/25/2017 00:01

Matrix: Groundwater

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/27/17 14:00	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:32	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/26/17 18:32	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:32	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/26/17 18:32	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/26/17 18:32	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/26/17 18:32	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84679.09 (continued)

Sample Tag: DUP-03_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/26/17 18:32	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/26/17 18:32	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84679.10

Sample Tag: Trip Blank

Collected Date/Time: 10/25/2017 00:01

Matrix: Liquid

COC Reference: 108726

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	10/30/17 13:15	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:23	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/27/17 13:23	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:23	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/27/17 13:23	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/27/17 13:23	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/27/17 13:23	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84679.10 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/27/17 13:23	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/27/17 13:23	JGH	10061-02-6	



C.O.C. PAGE # 1 OF 1

108726

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Theresa Olechiw			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive Ste 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248.994.2240		FAX NO. 248.994.2241	P.O. NO. B0064607.2017.00000
E-MAIL ADDRESS theresa.olechiw@arcadis.com		QUOTE NO.	

CONTACT NAME		Theresa Olechiw		☒ SAME	
COMPANY					
ADDRESS					
CITY				STATE	
				ZIP CODE	
PHONE NO.			E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER PNC	SAMPLER(S) - PLEASE PRINT/SIGN NAME Karlyn Voet - Therese Ashley Ruel - Asst
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER _____	

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other _____

Special Instructions

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

Containers & Preservatives[illegible]

RELINQUISHED BY:	<i>Rodney Vart / Arcadis</i>	A Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			10/25/17	12:45
RECEIVED BY:	<i>Jiff Muller</i>		DATE	TIME
SIGNATURE/ORGANIZATION			10/25/17	12:45
RELINQUISHED BY:	<i>Jiff Muller</i>		DATE	TIME
SIGNATURE/ORGANIZATION			10/25/17	14:40
RECEIVED BY:	<i>Eric Smith</i>		DATE	TIME
SIGNATURE/ORGANIZATION			10/25/17	14:40

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP ON ARRIVAL <u>3.1</u>	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Table 4

Summary of Groundwater Analytical Results
RACER Trust Pontiac North Campus
Pontiac, Michigan

PNC VOC Analyte List - 8260C

Volatile Organic Compounds	
VOC Acetone	1
VOC Benzene	1
VOC Bromodichloromethane	1
VOC Bromoform	1
VOC Bromomethane	1
VOC 2-Butanone	1
VOC Carbon Disulfide	1
VOC Carbon Tetrachloride	1
VOC Chlorobenzene	1
VOC Chloroethane	1
VOC Chloroform	1
VOC Chloromethane	1
VOC Cumene	1
VOC Cyclohexane	1
VOC 1,2-Dibromo-3-chloropropane	1
VOC Dibromochloromethane	1
VOC 1,2-Dibromoethane	1
VOC 1,2-Dichlorobenzene	1
VOC 1,3-Dichlorobenzene	1
VOC 1,4-Dichlorobenzene	1
VOC Dichlorodifluoromethane	1
VOC 1,1-Dichloroethane	1
VOC 1,2-Dichloroethane	1
VOC 1,1-Dichloroethene	1
VOC cis-1,2-Dichloroethene	1
VOC trans-1,2-Dichloroethene	1
VOC 1,2-Dichloropropane	1
VOC 1,3-Dichloropropene (summed)	1
VOC Ethyl Benzene	1
VOC 2-Hexanone	1
VOC Methyl Acetate	1
VOC Methyl tert-butyl ether	1
VOC 4-Methyl-2-pentanone	1
VOC Methylcyclohexane	1
VOC Methylene Chloride	1
VOC Styrene	1
VOC 1,1,2,2-Tetrachloroethane	1
VOC Tetrachloroethene	1
VOC Toluene	1
VOC 1,2,4-Trichlorobenzene	1
VOC 1,1,1-Trichloroethane	1
VOC 1,1,2-Trichloroethane	1
VOC Trichloroethene	1
VOC Trichlorofluoromethane	1
VOC 1,1,2-Trichloro-1,2,2-trifluoroethane	1
VOC Vinyl Chloride	1
VOC Xylenes (total)	1

Plus 1, 4 Dioxane 8260C SIMS



Analytical Laboratory Report

Report ID: S84722.01(01)

Generated on 11/07/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Additional Contacts: Colleen Barton

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S84722.01-S84722.12
Project: RACER PNC
Collected Date: 10/25/2017 - 10/26/2017
Submitted Date/Time: 10/27/2017 08:00
Sampled by: Kaitlyn Voet
P.O. #: B0064607.2017.00006

Table of Contents

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Method Summary (Page 4)
Sample Summary (Page 5)

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

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
E608	EPA Method 608
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (12 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84722.01	MWF16-15_GW-102517	Groundwater	10/25/17 13:47
S84722.02	MWF16-10_GW-102517	Groundwater	10/25/17 15:17
S84722.03	MWF16-11_GW-102517	Groundwater	10/25/17 16:12
S84722.04	MWF7-03_GW-102517	Groundwater	10/25/17 13:57
S84722.05	MWF16-16_GW-102517	Groundwater	10/25/17 15:02
S84722.06	MWF16-05_GW-102517	Groundwater	10/25/17 17:17
S84722.07	MWF16-17_GW-102617	Groundwater	10/26/17 09:22
S84722.08	MWF16-17_GW-102617 MS	Groundwater	10/26/17 09:22
S84722.09	MWF16-17_GW-102617 MSD	Groundwater	10/26/17 09:22
S84722.10	MWF8-01_GW-102617	Groundwater	10/26/17 10:22
S84722.11	MWW10-03_GW-102617	Groundwater	10/26/17 11:37
S84722.12	Trip Blank	Liquid	10/26/17 00:01



Analytical Laboratory Report

Lab Sample ID: S84722.01

Sample Tag: MWF16-15_GW-102517

Collected Date/Time: 10/25/2017 13:47

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

1,4-Dioxane*	13	ug/L	3	SW8260B - SIM	11/06/17 21:07	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:09	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 19:09	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	106-46-7	
cis-1,2-Dichloroethene	15	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:09	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:09	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	100-42-5	
1,1,1-Trichloroethane	14	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:09	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	108-88-3	
Trichloroethene	2	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.01 (continued)

Sample Tag: MWF16-15_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 19:09	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	110-82-7	
1,1-Dichloroethane	3	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 19:09	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:09	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.02

Sample Tag: MWF16-10_GW-102517

Collected Date/Time: 10/25/2017 15:17

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 21:28	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:29	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 19:29	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:29	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:29	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	100-42-5	
1,1,1-Trichloroethane	1	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:29	JGH	120-82-1	
Tetrachloroethene	11	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.02 (continued)

Sample Tag: MWF16-10_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 19:29	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 19:29	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:29	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.03

Sample Tag: MWF16-11_GW-102517

Collected Date/Time: 10/25/2017 16:12

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 21:49	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:49	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 19:49	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	75-15-0	
Carbon tetrachloride	3	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:49	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 19:49	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 19:49	JGH	120-82-1	
Tetrachloroethene	76	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	108-88-3	
Trichloroethene	4	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.03 (continued)

Sample Tag: MWF16-11_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 19:49	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 19:49	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 19:49	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.04

Sample Tag: MWF7-03_GW-102517

Collected Date/Time: 10/25/2017 13:57

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 22:10	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:10	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 20:10	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:10	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:10	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:10	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.04 (continued)

Sample Tag: MWF7-03_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 20:10	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 20:10	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:10	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.05

Sample Tag: MWF16-16_GW-102517

Collected Date/Time: 10/25/2017 15:02

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 22:31	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:30	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 20:30	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	75-00-3	
Chloroform	1	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	106-46-7	
cis-1,2-Dichloroethene	19	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	75-71-8	
trans-1,2-Dichloroethene	2	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:30	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:30	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	100-42-5	
1,1,1-Trichloroethane	9	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:30	JGH	120-82-1	
Tetrachloroethene	14	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	108-88-3	
Trichloroethene	7	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.05 (continued)

Sample Tag: MWF16-16_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 20:30	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	110-82-7	
1,1-Dichloroethane	6	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 20:30	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:30	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.06

Sample Tag: MWF16-05_GW-102517

Collected Date/Time: 10/25/2017 17:17

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 22:52	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:51	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 20:51	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:51	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 20:51	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	100-42-5	
1,1,1-Trichloroethane	2	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 20:51	JGH	120-82-1	
Tetrachloroethene	12	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	108-88-3	
Trichloroethene	3	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.06 (continued)

Sample Tag: MWF16-05_GW-102517

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 20:51	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 20:51	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 20:51	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.07

Sample Tag: MWF16-17_GW-102617

Collected Date/Time: 10/26/2017 09:22

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/06/17 20:25	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 18:27	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 18:27	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 18:27	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 18:27	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	100-42-5	
1,1,1-Trichloroethane	2	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 18:27	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84722.07 (continued)

Sample Tag: MWF16-17_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 18:27	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 18:27	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 18:27	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.08

Sample Tag: MWF16-17_GW-102617 MS

Collected Date/Time: 10/26/2017 09:22

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	59	ug/L	3	SW8260B - SIM	11/06/17 18:23	JML	123-91-1	1
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 17:46	JGH	67-64-1	1
2-Butanone (MEK)	54	ug/L	25	SW5030C/8260C	10/30/17 17:46	JGH	78-93-3	1
Benzene	48	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	71-43-2	1
Bromodichloromethane	50	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-27-4	1
Bromoform	51	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-25-2	1
Bromomethane	45	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	74-83-9	1
Carbon disulfide	44	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	75-15-0	1
Carbon tetrachloride	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	56-23-5	1
Chlorobenzene	48	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	108-90-7	1
Chloroethane	47	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	75-00-3	1
Chloroform	49	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	67-66-3	1
Chloromethane	45	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	74-87-3	1
1,2-Dibromo-3-chloropropane	52	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	96-12-8	1
1,2-Dichlorobenzene	50	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	95-50-1	1
1,2-Dichloroethane	50	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	107-06-2	1
1,2-Dichloropropane	50	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	78-87-5	1
1,3-Dichlorobenzene	49	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	541-73-1	1
1,4-Dichlorobenzene	49	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	106-46-7	1
cis-1,2-Dichloroethene	48	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	156-59-2	1
Dibromochloromethane	50	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	124-48-1	1
Dichlorodifluoromethane	38	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	75-71-8	1
trans-1,2-Dichloroethene	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	156-60-5	1
Ethylbenzene	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	100-41-4	1
2-Hexanone	54	ug/L	50	SW5030C/8260C	10/30/17 17:46	JGH	591-78-6	1
4-Methyl-2-pentanone (MIBK)	54	ug/L	50	SW5030C/8260C	10/30/17 17:46	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	52	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	1634-04-4	1
Methylene chloride	49	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	75-09-2	1
Styrene	51	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	100-42-5	1
1,1,1-Trichloroethane	49	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	71-55-6	1
1,1,2-Trichloroethane	53	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	79-00-5	1
1,2,4-Trichlorobenzene	49	ug/L	5	SW5030C/8260C	10/30/17 17:46	JGH	120-82-1	1
Tetrachloroethene	31	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	127-18-4	1
Toluene	49	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	108-88-3	1
Trichloroethene	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	79-01-6	1
Trichlorofluoromethane	46	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-69-4	1
Vinyl chloride	44	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84722.08 (continued)

Sample Tag: MWF16-17_GW-102617 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	48	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	95-47-6	1
p,m-Xylene*	93	ug/L	2	SW5030C/8260C	10/30/17 17:46	JGH		1
Isopropylbenzene	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	98-82-8	1
Cyclohexane	44	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	110-82-7	1
1,1-Dichloroethane	48	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-34-3	1
1,1-Dichloroethene	46	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	75-35-4	1
Methyl Acetate	53	ug/L	10	SW5030C/8260C	10/30/17 17:46	JGH	79-20-9	1
Methyl cyclohexane	47	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	45	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	76-13-1	1
1,2-Dibromoethane	50	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	106-93-4	1
1,1,2,2-Tetrachloroethane	53	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	79-34-5	1
cis-1,3-Dichloropropene	52	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	10061-01-5	1
trans-1,3-Dichloropropene	54	ug/L	1	SW5030C/8260C	10/30/17 17:46	JGH	10061-02-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84722.09

Sample Tag: MWF16-17_GW-102617 MSD

Collected Date/Time: 10/26/2017 09:22

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	51	ug/L	3	SW8260B - SIM	11/06/17 18:43	JML	123-91-1	1
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Volatile Organics - Arcadis

Acetone	51	ug/L	50	SW5030C/8260C	10/30/17 18:07	JGH	67-64-1	1
2-Butanone (MEK)	56	ug/L	25	SW5030C/8260C	10/30/17 18:07	JGH	78-93-3	1
Benzene	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	71-43-2	1
Bromodichloromethane	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-27-4	1
Bromoform	56	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-25-2	1
Bromomethane	52	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	74-83-9	1
Carbon disulfide	51	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	75-15-0	1
Carbon tetrachloride	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	56-23-5	1
Chlorobenzene	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	108-90-7	1
Chloroethane	54	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	75-00-3	1
Chloroform	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	67-66-3	1
Chloromethane	51	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	74-87-3	1
1,2-Dibromo-3-chloropropane	56	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	96-12-8	1
1,2-Dichlorobenzene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	95-50-1	1
1,2-Dichloroethane	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	107-06-2	1
1,2-Dichloropropane	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	78-87-5	1
1,3-Dichlorobenzene	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	541-73-1	1
1,4-Dichlorobenzene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	106-46-7	1
cis-1,2-Dichloroethene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	156-59-2	1
Dibromochloromethane	56	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	124-48-1	1
Dichlorodifluoromethane	44	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	75-71-8	1
trans-1,2-Dichloroethene	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	156-60-5	1
Ethylbenzene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	100-41-4	1
2-Hexanone	57	ug/L	50	SW5030C/8260C	10/30/17 18:07	JGH	591-78-6	1
4-Methyl-2-pentanone (MIBK)	57	ug/L	50	SW5030C/8260C	10/30/17 18:07	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	57	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	1634-04-4	1
Methylene chloride	55	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	75-09-2	1
Styrene	56	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	100-42-5	1
1,1,1-Trichloroethane	56	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	71-55-6	1
1,1,2-Trichloroethane	56	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	79-00-5	1
1,2,4-Trichlorobenzene	54	ug/L	5	SW5030C/8260C	10/30/17 18:07	JGH	120-82-1	1
Tetrachloroethene	35	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	127-18-4	1
Toluene	54	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	108-88-3	1
Trichloroethene	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	79-01-6	1
Trichlorofluoromethane	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-69-4	1
Vinyl chloride	51	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84722.09 (continued)

Sample Tag: MWF16-17_GW-102617 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	95-47-6	1
p,m-Xylene*	108	ug/L	2	SW5030C/8260C	10/30/17 18:07	JGH		1
Isopropylbenzene	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	98-82-8	1
Cyclohexane	50	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	110-82-7	1
1,1-Dichloroethane	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-34-3	1
1,1-Dichloroethene	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	75-35-4	1
Methyl Acetate	57	ug/L	10	SW5030C/8260C	10/30/17 18:07	JGH	79-20-9	1
Methyl cyclohexane	53	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	52	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	76-13-1	1
1,2-Dibromoethane	55	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	106-93-4	1
1,1,2,2-Tetrachloroethane	59	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	79-34-5	1
cis-1,3-Dichloropropene	57	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	10061-01-5	1
trans-1,3-Dichloropropene	58	ug/L	1	SW5030C/8260C	10/30/17 18:07	JGH	10061-02-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84722.10

Sample Tag: MWF8-01_GW-102617

Collected Date/Time: 10/26/2017 10:22

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:11	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 21:11	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	75-00-3	
Chloroform	1	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:11	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:11	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:11	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 21:11	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84722.10 (continued)

Sample Tag: MWF8-01_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 21:11	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:11	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.11

Sample Tag: MWW10-03_GW-102617

Collected Date/Time: 10/26/2017 11:37

Matrix: Groundwater

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.0	IR
1	125ml Plastic	HNO3	Yes	4.0	IR
1	1L Amber	None	Yes	4.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

Extraction, PCB	Completed			SW3510C	10/31/17 11:52	MJS		
Metal Digestion	Completed			SW3015A	10/31/17 11:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		

Metals

Lead	Not detected	mg/L	0.003	E200.8	10/31/17 13:19	CCM	7439-92-1	
Manganese	0.067	mg/L	0.005	E200.8	10/31/17 13:19	CCM	7439-96-5	

Organics - PCBs/Pesticides

PCB

PCB-1016	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	12674-11-2	
PCB-1221	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	11104-28-2	
PCB-1232	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	11141-16-5	
PCB-1242	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	53469-21-9	
PCB-1248	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	12672-29-6	
PCB-1254	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	11097-69-1	
PCB-1260	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	11096-82-5	
PCB, Total*	Not detected	ug/L	0.1	E608	10/31/17 22:33	JAN	1336-36-3	

Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:32	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 21:32	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	124-48-1	



Analytical Laboratory Report

Lab Sample ID: S84722.11 (continued)

Sample Tag: MWW10-03_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:32	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:32	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:32	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 21:32	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 21:32	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:32	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84722.12

Sample Tag: Trip Blank

Collected Date/Time: 10/26/2017 00:01

Matrix: Liquid

COC Reference: 108727

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	n/a	n/a	Yes	n/a	n/a

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
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Other / Misc.

No Analyses*	Completed				10/27/17 12:15	MMC		
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Merit
Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF

108727

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Theresa Olechiw

COMPANY Arcadis

ADDRESS 28550 Cabot Drive Ste 500

CITY Novi STATE MI ZIP CODE 48377

PHONE NO. 248.994.2240 FAX NO. 248.994.2241 P.O. NO. B0064607.2017.000006

E-MAIL ADDRESS theresa.olechiw@arcadis.com QUOTE NO.

CONTACT NAME Theresa Olechiw ☒ SAME

COMPANY

ADDRESS

CITY

STATE

ZIP CODE

PHONE NO.

E-MAIL ADDRESS

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER PNC SAMPLER(S) - PLEASE PRINT/SIGN NAME Kaitlyn Voet/Kaitlyn Voet

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES										
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER			
84712.01	10/25/17	1347	MWFIG-15-GW-102517	GW	3		3						X	X	
02	10/25/17	1517	MWFIG-10-GW-102517	GW	3		3						X	X	
03	10/25/17	1612	MWFIG-11-GW-102517	GW	3		3						X	X	
04	10/25/17	1357	MWF7-03-GW-102517	GW	3		3						X	X	
05	10/25/17	1502	MWFIG-16-GW-102517	GW	3		3						X	X	
06	10/25/17	1717	MWFIG-05-GW-102517	GW	3		3						X	X	
07/08/09	10/26/17	0922	MWFIG-17-GW-102617	GW	9		9						X	X	
10	10/26/17	1022	MWF8-01-GW-102617	GW	3		3						X		
11	10/26/17	1137	MWW10-03-GW-102617	GW	5		13	1					X	X	X
12	10/26/17	-	Trip Blank	-	1		1						X		

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other

Special Instructions

*See attached VOC list

MS/MSD

lab provided

RELINQUISHED BY: Kaitlyn Voet/Arcadis ☒ Sampler DATE 10/26/17 TIME 1205

RECEIVED BY: HA Miller DATE 10/26/17 TIME 1205

RELINQUISHED BY: HA Miller DATE 10/26/17 TIME 1200

RECEIVED BY: Ment Fridge DATE 10/26/17 TIME 1200

RELINQUISHED BY: Ment Fridge DATE 10/26/17 TIME 1200

RECEIVED BY: Sam Smith DATE 10/26/17 TIME 800

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS NOTES: TEMP. ON ARRIVAL 4.0

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

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

Table 4

Summary of Groundwater Analytical Results
RACER Trust Pontiac North Campus
Pontiac, Michigan

PNC VOC Analyte List - 8260C
Volatile Organic Compounds

VOC	Acetone	1
VOC	Benzene	1
VOC	Bromodichloromethane	1
VOC	Bromoform	1
VOC	Bromomethane	1
VOC	2-Butanone	1
VOC	Carbon Disulfide	1
VOC	Carbon Tetrachloride	1
VOC	Chlorobenzene	1
VOC	Chloroethane	1
VOC	Chloroform	1
VOC	Chloromethane	1
VOC	Cumene	1
VOC	Cyclohexane	1
VOC	1,2-Dibromo-3-chloropropane	1
VOC	Dibromochloromethane	1
VOC	1,2-Dibromoethane	1
VOC	1,2-Dichlorobenzene	1
VOC	1,3-Dichlorobenzene	1
VOC	1,4-Dichlorobenzene	1
VOC	Dichlorodifluoromethane	1
VOC	1,1-Dichloroethane	1
VOC	1,2-Dichloroethane	1
VOC	1,1-Dichloroethene	1
VOC	cis-1,2-Dichloroethene	1
VOC	trans-1,2-Dichloroethene	1
VOC	1,2-Dichloropropane	1
VOC	1,3-Dichloropropene (summed)	1
VOC	Ethyl Benzene	1
VOC	2-Hexanone	1
VOC	Methyl Acetate	1
VOC	Methyl tert-butyl ether	1
VOC	4-Methyl-2-pentanone	1
VOC	Methylcyclohexane	1
VOC	Methylene Chloride	1
VOC	Styrene	1
VOC	1,1,2,2-Tetrachloroethane	1
VOC	Tetrachloroethene	1
VOC	Toluene	1
VOC	1,2,4-Trichlorobenzene	1
VOC	1,1,1-Trichloroethane	1
VOC	1,1,2-Trichloroethane	1
VOC	Trichloroethene	1
VOC	Trichlorofluoromethane	1
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	1
VOC	Vinyl Chloride	1
VOC	Xylenes (total)	1

Plus 1, 4 Dioxane 8260C SIMS



Analytical Laboratory Report

Report ID: S84754.01(01)
Generated on 11/07/2017

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
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Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Additional Contacts: Colleen Barton

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Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S84754.01-S84754.05
Project: RACER PNC
Collected Date: 10/26/2017 - 10/27/2017
Submitted Date/Time: 10/30/2017 08:00
Sampled by: Kaitlyn Voet
P.O. #: B0064607.2017.00006

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E608	EPA Method 608
N/A	Not Applicable
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84754.01	MW-01-17_GW-102617	Groundwater	10/26/17 13:37
S84754.02	MWW10-SEN02_GW-102617	Groundwater	10/26/17 15:05
S84754.03	MW-40-99_GW-102617	Groundwater	10/26/17 16:37
S84754.04	MWW10-SEN03_GW-102717	Groundwater	10/27/17 09:15
S84754.05	Trip Blank	Liquid	10/27/17 00:01



Analytical Laboratory Report

Lab Sample ID: S84754.01

Sample Tag: MW-01-17_GW-102617

Collected Date/Time: 10/26/2017 13:37

Matrix: Groundwater

COC Reference: 108728

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/07/17 00:15	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:52	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 21:52	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:52	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 21:52	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 21:52	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84754.01 (continued)

Sample Tag: MW-01-17_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 21:52	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 21:52	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 21:52	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84754.02

Sample Tag: MWW10-SEN02_GW-102617

Collected Date/Time: 10/26/2017 15:05

Matrix: Groundwater

COC Reference: 108728

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	11	ug/L	3	SW8260B - SIM	11/07/17 00:36	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:13	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 22:13	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:13	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:13	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:13	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84754.02 (continued)

Sample Tag: MWW10-SEN02_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 22:13	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 22:13	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:13	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84754.03

Sample Tag: MW-40-99_GW-102617

Collected Date/Time: 10/26/2017 16:37

Matrix: Groundwater

COC Reference: 108728

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.9	IR
1	1L Amber	None	Yes	3.9	IR

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

Extraction, PCB	Completed			SW3510C	10/31/17 11:52	MJS		
pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		

Organics - PCBs/Pesticides

PCB

PCB-1016	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	12674-11-2	
PCB-1221	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	11104-28-2	
PCB-1232	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	11141-16-5	
PCB-1242	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	53469-21-9	
PCB-1248	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	12672-29-6	
PCB-1254	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	11097-69-1	
PCB-1260	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	11096-82-5	
PCB, Total*	Not detected	ug/L	0.1	E608	10/31/17 22:44	JAN	1336-36-3	

Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	11/07/17 00:57	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:33	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 22:33	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:33	JGH	591-78-6	



Analytical Laboratory Report

Lab Sample ID: S84754.03 (continued)

Sample Tag: MW-40-99_GW-102617

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:33	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:33	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 22:33	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 22:33	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:33	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84754.04

Sample Tag: MWW10-SEN03_GW-102717

Collected Date/Time: 10/27/2017 09:15

Matrix: Groundwater

COC Reference: 108728

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

1,4-Dioxane*	26	ug/L	3	SW8260B - SIM	11/07/17 01:19	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:54	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 22:54	JGH	78-93-3	
Benzene	1	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:54	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 22:54	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 22:54	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S84754.04 (continued)

Sample Tag: MWW10-SEN03_GW-102717

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 22:54	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	98-82-8	
Cyclohexane	2	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 22:54	JGH	79-20-9	
Methyl cyclohexane	1	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 22:54	JGH	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S84754.05

Sample Tag: Trip Blank

Collected Date/Time: 10/27/2017 00:01

Matrix: Liquid

COC Reference: 108728

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.9	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/31/17 11:30	KCV		
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Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 23:14	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	10/30/17 23:14	JGH	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	10/30/17 23:14	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	10/30/17 23:14	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/30/17 23:14	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	10/30/17 23:14	JGH		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S84754.05 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	10/30/17 23:14	JGH	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	10/30/17 23:14	JGH	10061-02-6	



108728

INVOICE TO

CONTACT NAME		Theresa Olechiw		☒ SAME	
COMPANY					
ADDRESS					
CITY				STATE	ZIP CODE
PHONE NO.			E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

VOC 8260					Certifications
1,4 Dioxane					☐ OHIO VAP ☐ Drinking Water
PCB					☐ DoD ☐ NPDES
					Project Locations
					☐ Detroit ☐ New York
					☒ Other _____
					Special Instructions

Containers & Preservatives

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE		TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE		TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES	TEMP. ON ARRIVAL	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		3.9	

Rev. 5.18.12

Attachment 4

Laboratory Analytical Data – January 2018



Analytical Laboratory Report

Report ID: S86839.01(01)
Generated on 01/22/2018

Report to

Attention: Theresa Olechiw
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: NA FAX: 248-994-2241
Email: theresa.olechiw@arcadis-us.com

Additional Contacts: Colleen Barton

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S86839.01-S86839.11
Project: PNC RACER
Collected Date: 01/15/2018 - 01/16/2018
Submitted Date/Time: 01/17/2018 13:30
Sampled by: Kaitlyn Voet
P.O. #: B0064607.2017

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Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S86839.01	MW-01-17_GW-011518	Groundwater	01/15/18 11:20
S86839.02	MW-01-17_GW-011518 MS	Groundwater	01/15/18 11:20
S86839.03	MW-01-17_GW-011518 MSD	Groundwater	01/15/18 11:20
S86839.04	MW-40-99_GW-011518	Groundwater	01/15/18 13:05
S86839.05	MW-02-17_GW-011518	Groundwater	01/15/18 14:55
S86839.06	MWF1R_GW-011518	Groundwater	01/15/18 15:57
S86839.07	MWF12-01_GW-011618	Groundwater	01/16/18 10:42
S86839.08	MWF12-02_GW-011618	Groundwater	01/16/18 11:49
S86839.09	MWW1-04_GW-011618	Groundwater	01/16/18 13:37
S86839.10	DUP-01_GW-011618	Groundwater	01/16/18 00:01
S86839.11	Trip Blank	Liquid	01/16/18 00:01



Analytical Laboratory Report

Lab Sample ID: S86839.01

Sample Tag: MW-01-17_GW-011518

Collected Date/Time: 01/15/2018 11:20

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	01/19/18 13:39	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:32	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/18/18 13:32	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:32	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:32	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:32	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.01 (continued)

Sample Tag: MW-01-17_GW-011518

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/18/18 13:32	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/18/18 13:32	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:32	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.02

Sample Tag: MW-01-17_GW-011518 MS

Collected Date/Time: 01/15/2018 11:20

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs* <2 STD Units N/A 01/19/18 14:00 KCV

Organics - Volatiles

1,4-Dioxane* 46 ug/L 3 SW8260B - SIM 01/19/18 12:19 JML 123-91-1 1

Volatile Organics - Arcadis

Acetone	53	ug/L	50	SW5030C/8260C	01/18/18 11:47	JML	67-64-1	1
2-Butanone (MEK)	57	ug/L	25	SW5030C/8260C	01/18/18 11:47	JML	78-93-3	1
Benzene	47	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	71-43-2	1
Bromodichloromethane	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-27-4	1
Bromoform	45	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-25-2	1
Bromomethane	44	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	74-83-9	1
Carbon disulfide	48	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	75-15-0	1
Carbon tetrachloride	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	56-23-5	1
Chlorobenzene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	108-90-7	1
Chloroethane	46	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	75-00-3	1
Chloroform	48	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	67-66-3	1
Chloromethane	51	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	74-87-3	1
1,2-Dibromo-3-chloropropane	55	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	96-12-8	1
1,2-Dichlorobenzene	43	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	95-50-1	1
1,2-Dichloroethane	47	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	107-06-2	1
1,2-Dichloropropane	48	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	78-87-5	1
1,3-Dichlorobenzene	41	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	541-73-1	1
1,4-Dichlorobenzene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	106-46-7	1
cis-1,2-Dichloroethene	48	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	156-59-2	1
Dibromochloromethane	44	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	124-48-1	1
Dichlorodifluoromethane	46	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	75-71-8	1
trans-1,2-Dichloroethene	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	156-60-5	1
Ethylbenzene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	100-41-4	1
2-Hexanone	62	ug/L	50	SW5030C/8260C	01/18/18 11:47	JML	591-78-6	1
4-Methyl-2-pentanone (MIBK)	62	ug/L	50	SW5030C/8260C	01/18/18 11:47	JML	108-10-1	1
tert-Methyl butyl ether (MTBE)	54	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	1634-04-4	1
Methylene chloride	49	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	75-09-2	1
Styrene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	100-42-5	1
1,1,1-Trichloroethane	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	71-55-6	1
1,1,2-Trichloroethane	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	79-00-5	1
1,2,4-Trichlorobenzene	42	ug/L	5	SW5030C/8260C	01/18/18 11:47	JML	120-82-1	1
Tetrachloroethene	44	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	127-18-4	1
Toluene	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	108-88-3	1
Trichloroethene	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	79-01-6	1
Trichlorofluoromethane	45	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-69-4	1
Vinyl chloride	45	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S86839.02 (continued)

Sample Tag: MW-01-17_GW-011518 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	95-47-6	1
p,m-Xylene*	83	ug/L	2	SW5030C/8260C	01/18/18 11:47	JML		1
Isopropylbenzene	42	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	98-82-8	1
Cyclohexane	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	110-82-7	1
1,1-Dichloroethane	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-34-3	1
1,1-Dichloroethene	48	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	75-35-4	1
Methyl Acetate	60	ug/L	10	SW5030C/8260C	01/18/18 11:47	JML	79-20-9	1
Methyl cyclohexane	47	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	47	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	76-13-1	1
1,2-Dibromoethane	46	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	106-93-4	1
1,1,2,2-Tetrachloroethane	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	79-34-5	1
cis-1,3-Dichloropropene	48	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	10061-01-5	1
trans-1,3-Dichloropropene	49	ug/L	1	SW5030C/8260C	01/18/18 11:47	JML	10061-02-6	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S86839.03

Sample Tag: MW-01-17_GW-011518 MSD

Collected Date/Time: 01/15/2018 11:20

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	47	ug/L	3	SW8260B - SIM	01/19/18 12:39	JML	123-91-1	1
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Volatile Organics - Arcadis

Acetone	56	ug/L	50	SW5030C/8260C	01/18/18 12:07	JML	67-64-1	1
2-Butanone (MEK)	60	ug/L	25	SW5030C/8260C	01/18/18 12:07	JML	78-93-3	1
Benzene	48	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	71-43-2	1
Bromodichloromethane	47	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-27-4	1
Bromoform	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-25-2	1
Bromomethane	46	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	74-83-9	1
Carbon disulfide	49	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	75-15-0	1
Carbon tetrachloride	46	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	56-23-5	1
Chlorobenzene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	108-90-7	1
Chloroethane	47	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	75-00-3	1
Chloroform	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	67-66-3	1
Chloromethane	50	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	74-87-3	1
1,2-Dibromo-3-chloropropane	56	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	96-12-8	1
1,2-Dichlorobenzene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	95-50-1	1
1,2-Dichloroethane	48	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	107-06-2	1
1,2-Dichloropropane	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	78-87-5	1
1,3-Dichlorobenzene	43	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	541-73-1	1
1,4-Dichlorobenzene	44	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	106-46-7	1
cis-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	156-59-2	1
Dibromochloromethane	47	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	124-48-1	1
Dichlorodifluoromethane	49	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	75-71-8	1
trans-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	156-60-5	1
Ethylbenzene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	100-41-4	1
2-Hexanone	64	ug/L	50	SW5030C/8260C	01/18/18 12:07	JML	591-78-6	1
4-Methyl-2-pentanone (MIBK)	63	ug/L	50	SW5030C/8260C	01/18/18 12:07	JML	108-10-1	1
tert-Methyl butyl ether (MTBE)	55	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	1634-04-4	1
Methylene chloride	50	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	75-09-2	1
Styrene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	100-42-5	1
1,1,1-Trichloroethane	50	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	71-55-6	1
1,1,2-Trichloroethane	51	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	79-00-5	1
1,2,4-Trichlorobenzene	45	ug/L	5	SW5030C/8260C	01/18/18 12:07	JML	120-82-1	1
Tetrachloroethene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	127-18-4	1
Toluene	47	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	108-88-3	1
Trichloroethene	47	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	79-01-6	1
Trichlorofluoromethane	46	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-69-4	1
Vinyl chloride	47	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-01-4	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S86839.03 (continued)

Sample Tag: MW-01-17_GW-011518 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
o-Xylene	45	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	95-47-6	1
p,m-Xylene*	89	ug/L	2	SW5030C/8260C	01/18/18 12:07	JML		1
Isopropylbenzene	46	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	98-82-8	1
Cyclohexane	48	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	110-82-7	1
1,1-Dichloroethane	51	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-34-3	1
1,1-Dichloroethene	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	75-35-4	1
Methyl Acetate	63	ug/L	10	SW5030C/8260C	01/18/18 12:07	JML	79-20-9	1
Methyl cyclohexane	48	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	108-87-2	1
1,1,2-Trichloro-1,2,2-trifluoroethane	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	76-13-1	1
1,2-Dibromoethane	49	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	106-93-4	1
1,1,2,2-Tetrachloroethane	53	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	79-34-5	1
cis-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	10061-01-5	1
trans-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	01/18/18 12:07	JML	10061-02-6	1

1-spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S86839.04

Sample Tag: MW-40-99_GW-011518

Collected Date/Time: 01/15/2018 13:05

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	01/19/18 15:24	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 14:55	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/18/18 14:55	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 14:55	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/18/18 14:55	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/18/18 14:55	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.04 (continued)

Sample Tag: MW-40-99_GW-011518

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/18/18 14:55	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/18/18 14:55	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 14:55	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.05

Sample Tag: MW-02-17_GW-011518

Collected Date/Time: 01/15/2018 14:55

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	19	ug/L	3	SW8260B - SIM	01/19/18 20:59	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:15	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/18/18 15:15	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:15	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:15	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	100-42-5	
1,1,1-Trichloroethane	8	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:15	JML	120-82-1	
Tetrachloroethene	11	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	108-88-3	
Trichloroethene	2	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.05 (continued)

Sample Tag: MW-02-17_GW-011518

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/18/18 15:15	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/18/18 15:15	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:15	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.06

Sample Tag: MWF1R_GW-011518

Collected Date/Time: 01/15/2018 15:57

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	4	ug/L	3	SW8260B - SIM	01/19/18 16:27	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:35	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/18/18 15:35	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:35	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/18/18 15:35	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/18/18 15:35	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.06 (continued)

Sample Tag: MWF1R_GW-011518

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/18/18 15:35	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/18/18 15:35	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 15:35	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.07

Sample Tag: MWF12-01_GW-011618

Collected Date/Time: 01/16/2018 10:42

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	5	ug/L	3	SW8260B - SIM	01/19/18 16:48	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:04	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/19/18 14:04	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:04	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:04	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	100-42-5	
1,1,1-Trichloroethane	25	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:04	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.07 (continued)

Sample Tag: MWF12-01_GW-011618

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/19/18 14:04	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	110-82-7	
1,1-Dichloroethane	3	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-34-3	
1,1-Dichloroethene	1	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/19/18 14:04	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:04	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.08

Sample Tag: MWF12-02_GW-011618

Collected Date/Time: 01/16/2018 11:49

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	4	ug/L	3	SW8260B - SIM	01/19/18 17:09	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:24	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/19/18 14:24	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:24	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:24	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	100-42-5	
1,1,1-Trichloroethane	1	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:24	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.08 (continued)

Sample Tag: MWF12-02_GW-011618

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/19/18 14:24	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/19/18 14:24	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:24	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.09

Sample Tag: MWW1-04_GW-011618

Collected Date/Time: 01/16/2018 13:37

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	Not detected	ug/L	3	SW8260B - SIM	01/19/18 15:45	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:45	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/19/18 14:45	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:45	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/19/18 14:45	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/19/18 14:45	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.09 (continued)

Sample Tag: MWW1-04_GW-011618

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/19/18 14:45	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/19/18 14:45	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 14:45	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.10

Sample Tag: DUP-01_GW-011618

Collected Date/Time: 01/16/2018 00:01

Matrix: Groundwater

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.5	IR

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

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
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Organics - Volatiles

1,4-Dioxane*	4	ug/L	3	SW8260B - SIM	01/19/18 17:30	JML	123-91-1	
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Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 15:06	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/19/18 15:06	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/19/18 15:06	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/19/18 15:06	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	100-42-5	
1,1,1-Trichloroethane	1	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/19/18 15:06	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	95-47-6	



Analytical Laboratory Report

Lab Sample ID: S86839.10 (continued)

Sample Tag: DUP-01_GW-011618

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/19/18 15:06	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	98-82-8	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	110-82-7	
1,1-Dichloroethane	2	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/19/18 15:06	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/19/18 15:06	JML	10061-02-6	



Analytical Laboratory Report

Lab Sample ID: S86839.11

Sample Tag: Trip Blank

Collected Date/Time: 01/16/2018 00:01

Matrix: Liquid

COC Reference: 103828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
----------	---------	-------	----	--------	---------------	------	-------	-------

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	01/19/18 14:00	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

Volatile Organics - Arcadis

Acetone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:11	JML	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	01/18/18 13:11	JML	78-93-3	
Benzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-27-4	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-25-2	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	74-83-9	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	75-15-0	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	56-23-5	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	108-90-7	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	75-00-3	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	67-66-3	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	74-87-3	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	96-12-8	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	95-50-1	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	107-06-2	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	156-59-2	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	124-48-1	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	156-60-5	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	100-41-4	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:11	JML	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	01/18/18 13:11	JML	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	1634-04-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	75-09-2	
Styrene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	01/18/18 13:11	JML	120-82-1	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	127-18-4	
Toluene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	108-88-3	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	79-01-6	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-69-4	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-01-4	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	95-47-6	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	01/18/18 13:11	JML		
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	98-82-8	



Analytical Laboratory Report

Lab Sample ID: S86839.11 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - Arcadis (continued)								
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	110-82-7	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-34-3	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	75-35-4	
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	01/18/18 13:11	JML	79-20-9	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	108-87-2	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	76-13-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	106-93-4	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	79-34-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	01/18/18 13:11	JML	10061-02-6	



2680 East Lansing Dr., East Lansing, MI 48823
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www.meritlabs.com

C.O.C. PAGE # 1 OF 1

103828

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Theresa Olechiw
COMPANY Arcadis
ADDRESS 28550 Cabot Drive #500
CITY Novi STATE MI ZIP CODE 48377
PHONE NO. 810 225 1909 FAX NO. 800 646 0720
E-MAIL ADDRESS theresa.olechiw@arcadis.com

CONTACT NAME Accounts Payable ☐ SAME
COMPANY Arcadis
ADDRESS 630 Plaza Drive Suite 600
CITY Highlands Ranch STATE CO ZIP CODE 80129
PHONE NO. accounts payable.administration@arcadis-us.com

PROJECT NO./NAME PNC RACER
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
	DATE	TIME										
8839.01/04/18	1/15/18	1120	MW-01-17-GW-011518	GW	9		9					
.04	1/15/18	1305	MW-40-99-GW-011518	GW	3		3					
.05	1/15/18	1455	MW-02-17-GW-011518	GW	3		3					
.06	1/15/18	1557	MWFIR-GW-011518	GW	3		3					
.07	1/16/18	1042	MWF12-01-GW-011618	GW	3		3					
.08	1/16/18	1149	MWF12-02-GW-011618	GW	4		3+					
.09	1/16/18	1337	MWW1-04-GW-011618	GW	3		3					
.10	1/16/18	-	DUP-01-GW-011618	GW	4		3+					
.11	1/16/18	-	Trip Blank	GW	1		1					

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☒ Other Pontiac, MI

Special Instructions
* See attached VOC list
* RL for 1,4 dioxane must be < 7.2 ppb
* Note: First sample is MS/MSD

lab provided

RELINQUISHED BY: Kathryn Voet Arcadis DATE 1/16/18 TIME 1818
RECEIVED BY: Novi Cold Storage DATE 1/16/18 TIME 1818
RELINQUISHED BY: Megan Humphrey DATE 1/17/18 TIME 1120
RECEIVED BY: Mex DATE 1-17-18 TIME 1120

RELINQUISHED BY: [Signature] DATE 1-17-18 TIME 1330
RECEIVED BY: [Signature] DATE 1-17-18 TIME 1330
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS [Initials]
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS [Initials]
NOTES: 4.5

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

Table 4

Summary of Groundwater Analytical Results
 RACER Trust Pontiac North Campus
 Pontiac, Michigan

PNC VOC Analyte List - 8260C	
Volatile Organic Compounds	
VOC Acetone	1
VOC Benzene	1
VOC Bromodichloromethane	1
VOC Bromoform	1
VOC Bromomethane	1
VOC 2-Butanone	1
VOC Carbon Disulfide	1
VOC Carbon Tetrachloride	1
VOC Chlorobenzene	1
VOC Chloroethane	1
VOC Chloroform	1
VOC Chloromethane	1
VOC Cumene	1
VOC Cyclohexane	1
VOC 1,2-Dibromo-3-chloropropane	1
VOC Dibromochloromethane	1
VOC 1,2-Dibromoethane	1
VOC 1,2-Dichlorobenzene	1
VOC 1,3-Dichlorobenzene	1
VOC 1,4-Dichlorobenzene	1
VOC Dichlorodifluoromethane	1
VOC 1,1-Dichloroethane	1
VOC 1,2-Dichloroethane	1
VOC 1,1,1-Dichloroethene	1
VOC cis-1,2-Dichloroethene	1
VOC trans-1,2-Dichloroethene	1
VOC 1,2-Dichloropropane	1
VOC 1,3-Dichloropropene (summed)	1
VOC Ethyl Benzene	1
VOC 2-Hexanone	1
VOC Methyl Acetate	1
VOC Methyl tert-butyl ether	1
VOC 4-Methyl-2-pentanone	1
VOC Methylcyclohexane	1
VOC Methylene Chloride	1
VOC Styrene	1
VOC 1,1,2,2-Tetrachloroethane	1
VOC Tetrachloroethene	1
VOC Toluene	1
VOC 1,2,4-Trichlorobenzene	1
VOC 1,1,1-Trichloroethane	1
VOC 1,1,2-Trichloroethane	1
VOC Trichloroethene	1
VOC Trichlorofluoromethane	1
VOC 1,1,2-Trichloro-1,2,2-trifluoroethane	1
VOC Vinyl Chloride	1
VOC Xylenes (total)	1

Plus 1, 4 Dioxane 8260C SIMS

Attachment 5

VIAP Calculator Input and Results

NOTE: This calculator is provided for evaluation purposes only of the proposed generic volatilization to indoor air criteria. Results may not be used for pathway compliance determinations. Results do not represent DEQ-approved site-specific criteria. Therefore, submittals to the DEQ may not rely upon calculator results. The calculator was developed from the Proposed Rules using Microsoft® Excel 2016 and may not work on other programs or on other versions of Excel. Sample results will be provided to assist in verifying the calculator results from your system.

I AGREE	By identifying that you agree, You are certifying that you have read and understand that the calculator is a tool that implements the proposed rules and any results generated by it are only for demonstration purposes.
----------------	---

ALL ORANGE BOXES MUST BE FILLED IN

PROJECT NAME:	RACER PNC
ADDRESS:	N Saginaw St. and E Montcalm St., Pontiac, MI
SITE ID:	PNC

DATE: 5/20/2018

	VI Tier 2		VI Tier 3A		Parameters for Sand			
Depth to groundwater?	20	ft	20	ft	Dry bulk density	ρ_b	1.66	g/cm ³
Res or non res	Residential	--	Nonresidential	--	Soil total porosity	n^V	0.375	unitless
Building type	House	--	< 50,000	--	Soil water-filled porosity	θ_w^A	0.054	cm ³ /cm ³
Foundation	Basement	--	Basement (NR unoccupied)	--	Air-filled porosity	θ_a^V	0.321	cm ³ /cm ³
Soil type verification	Field Methods	--	Field Methods	--	Residual soil water content	θ_r	0.053	cm ³ /cm ³
USDA soil texture	Sand	--	Sand	--	Soil saturated hydraulic conductivity	K_s	26.78	cm/hr
USDA soil texture symbol	S	--	S	--	van Genuchten shape parameter	M	0.69	unitless
County	Oakland	--	Oakland	--	Mean particle diameter	D	0.044	cm
System temp	10.0	°C	10.0	°C				
Information								
Depth below grade of water table	609.6	cm	609.6	cm				
Depth below grade of flooring	200.0	cm	200.0	cm				
Footings/utilities depth below floor	100.0	cm	100.0	cm				
Capillary Zone	17.0	cm	17.0	cm				
R299.27(1)(I)(i) Cap Zone to structure	392.6	cm	392.6	cm				
R299.27(1)(I)(ii) GW to foundation	309.6	cm	309.6	cm				
Groundwater method?	GW	--	GW	cm				
Building Information								
Length (m)	10	m	20	m				
Width (m)	10	m	20	m				
Height (m)	2.44	m	3.66	m				
Air Exchange Rate (hr ⁻¹)	0.25	hr ⁻¹	1.00	hr ⁻¹				

FORM CHECK	
VI Tier 2	FORM COMPLETE
VI Tier 3A	FORM COMPLETE

VI Tier 2 GW calculated via:
GW: Rule 27(13)a
VI Tier 3A GW calculated via:
GW: Rule 27(13)a

Date:5/20/2018

PROJECT NAME:RACER PNC

ADDRESS:N Saginaw St. and E Montcalm St., Pontiac, MI

SITE ID:PNC

NOTE: This calculator is provided for evaluation purposes only of the proposed generic volatilization to indoor air criteria. Results may not be used for pathway compliance determinations. Results do not represent DEQ-approved site-specific criteria. Therefore, submittals to the DEQ may not rely upon calculator results. The calculator was developed from the Proposed Rules using Microsoft® Excel 2016 and may not work on other programs or on other versions of Excel. Sample results will be provided to assist in verifying the calculator results from your system.

VI Tier 2

VI Tier 3A

Depth to groundwater?609.6 cm

Res or non res:ResidentialNonresidential

Building type:House< 50,000

Foundation:BasementBasement (NR unoccupied)

Soil type verification:Field MethodsField Methods

USDA soil texture:Sand

USDA soil texture symbol:S

County:Oakland

Groundwater source:GWGW

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
83329	Acenaphthene	3,900 (S) sol	2.0E+05 nc	7,300 nc	3,900 (S) sol	2.0E+05 nc	7,300 nc	3,900 (S) sol	5.2E+06 nc	11,000 nc
208968	Acenaphthylene (CC)	65 nc	NA	7,300 nc	65 (CC) nc	NA	7,300 nc	710 (CC) nc	NA	11,000 nc
75070	Acetaldehyde (I)	190 nc	34 (M)	310 nc	2,600 nc	34 (M)	310 nc	44,000 nc	870 (M)	460 nc
64197	Acetic acid	3.6E+06 nc	6.5E+05 nc	8,700 nc	3.8E+07 nc	6.5E+05 nc	8,700 nc	7.0E+08 nc	1.7E+07 nc	13,000 nc
67641	Acetone (I,EE,FF)	50,000 (FF) st	2.6E+05 st	1.0E+06 st	1.9E+07 st	2.6E+05 st	1.0E+06 st	2.2E+08 st	4.5E+06 st	1.0E+06 st
75058	Acetonitrile	2,800 nc	620 (M)	2,100 nc	35,000 nc	620 (M)	2,100 nc	6.1E+05 nc	16,000	3,100 nc
98862	Acetophenone (DD)	8,700 (DD) dev	6.2E+05 (DD)	1.1E+05 (DD) dev	6.1E+06 (S) (DD) sol	6.2E+05 (DD) dev	1.1E+05 (DD) dev	6.1E+06 (S) (DD) sol	8.4E+05 (DD) dev	1.1E+05 (DD) dev
107028	Acrolein (I)	0.25 (M) nc	4.6E-02 (M)	0.70 nc	4.0 (M) nc	4.6E-02 (M)	0.70 nc	64 nc	1.2 (M)	1.0 nc
79107	Acrylic acid (DD)	1,400 nc	260	7.0 nc	16,000 nc	260	7.0 nc	2.9E+05 nc	6,600	10 nc
107131	Acrylonitrile (I)	4.6 ca	1.2 (M)	12 ca	73 ca	1.2 (M)	12 ca	1,900 ca	49 (M)	29 ca
309002	Aldrin	0.61 ca	520	0.17 ca	17 (S) sol	NA	0.17 ca	17 (S) sol	21,000	0.41 ca
7664417	Ammonia (EE,FF)	1,900 (FF) nc	NA	17,000 nc	3.2E+05 nc	NA	17,000 nc	1.0E+07 st	NA	40,000 st
994058	t-Amyl methyl ether (TAME) (CC)	3.9 (M) nc	NA	2,200 nc	3.9 (M) (CC) nc	NA	2,200 nc	97 (CC) nc	NA	3,200 nc

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
120127	Anthracene	43 (S)	1.3E+07	35,000	43 (S)	1.3E+07	35,000	43 (S)	3.2E+08	51,000
103333	Azobenzene (CC)	sol 1.8 (M)	nc NA	nc 27	sol 1.8 (M) (CC)	nc NA	nc 27	sol 23 (CC)	nc NA	nc 64
71432	Benzene (I,KK)	ca 1.0	ca 1.7 (M)	ca 110	ca 20	ca 1.7 (M)	ca 110	ca 470	ca 68	ca 260
56553	Benzo(a)anthracene (Q,MM)	9.4 (S)	1.6E+05	5.8 (MM)	9.4 (S)	1.6E+05	5.8 (MM)	9.4 (S)	1.6E+07	33
100447	Benzyl chloride	sol 2.5 (M)	mut 12 (M)	mut 17	sol 64	mut 12 (M)	mut 17	sol 1,500	ca 490	ca 40
111444	bis-2-Chloroethylether (I)	ca 6.8	ca 3.4 (M)	ca 2.6	ca 130	ca 3.4 (M)	ca 2.6	ca 3,200	ca 140	ca 6.0
108861	Bromobenzene (I)	62	160	2,100	1,900	160	2,100	26,000	4,000	3,100
75274	Bromodichloromethane (DD)	nc 1.2	nc 0.61 (M)	nc 48	nc 34	nc 0.61 (M)	nc 48	nc 680	nc 23 (M)	nc 100
75252	Bromoform	ca 89	ca 45 (M)	ca 770	ca 3,500	ca 45 (M)	ca 770	nc 74,000	nc 1,800	nc 1,800
74839	Bromomethane	ca 2.1 (M)	ca 0.90 (M)	ca 350	ca 35	ca 0.90 (M)	ca 350	ca 530	ca 23 (M)	ca 510
71363	n-Butanol (I)	nc 98,000	nc 20,000	nc 12,000	nc 1.3E+06	nc 20,000	nc 12,000	nc 2.2E+07	nc 5.1E+05	nc 18,000
78933	2-Butanone (MEK) (I,DD,KK)	nc 2,600 (DD)	nc 31,000 (DD)	nc 1.7E+05 (DD)	nc 2.4E+06 (DD)	nc 31,000 (DD)	nc 1.7E+05 (DD)	nc 2.6E+07 (DD)	nc 5.4E+05 (DD)	nc 1.7E+05 (DD)
123864	n-Butyl acetate	dev 2,900	dev 1,100	dev 14,000	dev 74,000	dev 1,100	dev 14,000	dev 1.1E+06	dev 27,000	dev 20,000
75650	t-Butyl alcohol (CC)	nc 230	nc NA	nc 2,500	nc 230 (CC)	nc NA	nc 2,500	nc 1,200 (CC)	nc NA	nc 3,700
104518	n-Butylbenzene	nc 44	nc 550	nc 7,000	nc 1,100	nc 550	nc 7,000	nc 12,000 (S)	nc 14,000	nc 10,000
135988	sec-Butylbenzene	nc 270	nc 3,800	nc 14	nc 5,000	nc 3,800	nc 14	sol 18,000 (S)	nc 49,000	nc 20
98066	t-Butylbenzene (I)	nc 7.7E-02 (M)	nc 0.64 (M)	nc 14	nc 1.9	nc 0.64 (M)	nc 14	sol 26	nc 16 (M)	nc 20
79925	Camphene (I,CC)	nc 3.2	nc NA	nc 2,800	nc 3.2 (CC)	nc NA	nc 2,800	nc 110 (CC)	nc NA	nc 4,100
75150	Carbon disulfide (I,R,DD)	nc 92	nc 52 (M)	nc 24,000	nc 1,300	nc 52 (M)	nc 24,000	nc 20,000	nc 1,300	nc 36,000
56235	Carbon tetrachloride (KK)	nc 0.41 (M)	nc 0.31 (M)	nc 150	nc 7.8	nc 0.31 (M)	nc 150	nc 170	nc 13 (M)	nc 360
57749	Chlordane (J,KK,EE)	ca 18	ca 13,000	ca 6.7	ca 56 (S)	ca 13,000	ca 6.7	ca 56 (S)	ca 3.1E+05	ca 9.3
108907	Chlorobenzene (I,KK)	st 33	st 82	st 1,700	sol 770	st 82	st 1,700	sol 11,000	st 2,100	st 2,600
75683	1-Chloro-1,1-difluoroethane	nc 2,800	nc 2,400	nc 1.7E+06	nc 25,000	nc 2,400	nc 1.7E+06	nc 3.6E+05	nc 61,000	nc 2.6E+06
75003	Chloroethane (DD)	nc 620	nc 330	nc 1.4E+05	nc 9,300	nc 330	nc 1.4E+05	nc 1.4E+05	nc 8,500	nc 2.0E+05
110758	2-Chloroethyl vinyl ether	nc	nc	nc	nc	nc	nc	nc	nc	nc
		NA	NA	NA	NA	NA	NA	NA	NA	NA

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
67663	Chloroform (KK)	0.49 (M) ca 15	0.26 (M) ca 6.9 (M)	37 ca 3,100	11 ca 210	0.26 (M) ca 6.9 (M)	37 ca 3,100	250 ca 3,300	11 (M) ca 180 (M)	87 ca 4,600
74873	Chloromethane (I)	nc	nc	nc	nc	nc	nc	nc	nc	nc
91587	beta-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
95578	2-Chlorophenol (DD)	45 (DD) dev	12,000 (DD) dev	600 (DD) dev	59,000 (DD) dev	12,000 (DD) dev	600 (DD) dev	6.3E+05 (DD) dev	2.1E+05 (DD) dev	600 (DD) dev
95498	o-Chlorotoluene (I)	50 nc	200 nc	2,800 nc	1,300 nc	200 nc	2,800 nc	18,000 nc	5,100 nc	4,100 nc
74908	Cyanide, Hydrogen (P,R,DD)	9.0 nc	1.8 (M) nc	28 nc	100 nc	1.8 (M) nc	28 nc	1,800 nc	46 (M) nc	41 nc
110827	Cyclohexane (DD)	290 nc	320 (M) nc	2.1E+05 nc	1,500 nc	320 (M) nc	2.1E+05 nc	22,000 nc	8,100 nc	3.1E+05 nc
108941	Cyclohexanone (CC)	2,300 nc	NA nc	24,000 nc	2,300 (CC) nc	NA nc	24,000 nc	13,000 (CC) nc	NA nc	36,000 nc
72559	4-4'-DDE	32 ca	39,000 ca	8.7 ca	40 (S) sol	39,000 ca	8.7 ca	40 (S) sol	1.6E+06 ca	21 ca
117840	Di-n-octyl phthalate (CC)	22 (S) sol	NA nc	16,000 nc	270 (S) (CC) sol	NA nc	16,000 nc	3,500 (S) (CC) sol	NA nc	24,000 nc
123422	Diacetone alcohol (I)	2.9E+07 nc	5.2E+06 nc	83,000 nc	4.3E+08 nc	5.2E+06 nc	83,000 nc	1.0E+09 (S) sol	3.5E+07 nc	1.2E+05 nc
132649	Dibenzofuran	3,100 (S) sol	7.1E+06 nc	140 nc	3,100 (S) sol	7.1E+06 nc	140 nc	3,100 (S) sol	1.8E+08 nc	200 nc
124481	Dibromochloromethane (MM)	0.78 (M) mut	0.40 (M) mut	14 (MM) mut	32 (MM) mut	0.40 (M) mut	14 (MM) mut	1,600 ca	39 (M) ca	83 ca
96128	Dibromochloropropane (MM,CC)	4.5E-04 (M) mut	NA mut	6.2E-02 (MM) mut	4.5E-04 (MM) (M) (CC) mut	NA mut	6.2E-02 (MM) mut	2.1E-02 (M) (CC) mut	NA mut	0.36 ca
74953	Dibromomethane	8.8 nc	3.5 (M) nc	140 nc	260 nc	3.5 (M) nc	140 nc	3,500 nc	90 (M) nc	200 nc
95501	1,2-Dichlorobenzene	370 nc	1,500 nc	10,000 nc	11,000 nc	1,500 nc	10,000 nc	1.5E+05 nc	38,000 nc	15,000 nc
541731	1,3-Dichlorobenzene	2.6 nc	10 (M) nc	100 nc	76 nc	10 (M) nc	100 nc	1,000 nc	260 nc	150 nc
106467	1,4-Dichlorobenzene (KK)	5.9 ca	23 (M) ca	220 ca	180 ca	23 (M) ca	220 ca	3,800 ca	950 ca	510 ca
75718	Dichlorodifluoromethane	13 nc	12 (M) nc	11,000 nc	41 nc	12 (M) nc	11,000 nc	580 nc	320 nc	17,000 nc
75343	1,1-Dichloroethane	4.7 ca	2.6 (M) ca	530 ca	95 ca	2.6 (M) ca	530 ca	2,200 ca	110 ca	1,200 ca
107062	1,2-Dichloroethane (I,KK)	1.4 ca	0.82 (M) ca	33 ca	29 ca	0.82 (M) ca	33 ca	690 ca	34 (M) ca	77 ca
75354	1,1-Dichloroethylene (I,KK)	18 nc	12 (M) nc	7,000 nc	240 nc	12 (M) nc	7,000 nc	3,500 nc	310 nc	10,000 nc
156592	cis-1,2-Dichloroethylene	3.4 nc	2.1 (M) nc	280 nc	67 nc	2.1 (M) nc	280 nc	990 nc	53 nc	410 nc
156605	trans-1,2-Dichloroethylene (EE,FF)	27 (FF) st	39 (M) nc	9,000 nc	910 nc	39 (M) nc	9,000 nc	27,000 st	2,000 st	26,000 st
78875	1,2-Dichloropropane (I)	2.6 nc	2.1 (M) nc	140 nc	61 nc	2.1 (M) nc	140 nc	870 nc	54 nc	200 nc

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
542756	1,3-Dichloropropene (J)	3.3	3.1 (M)	210	75	3.1 (M)	210	1,700	130	500
60571	Dieldrin	ca	ca	ca	ca	ca	ca	ca	ca	ca
60297	Diethyl ether	3.7	770	0.18	130	770	0.18	200 (S)	31,000	0.43
108203	Diisopropyl ether (DD)	ca	ca	ca	ca	ca	ca	sol	ca	ca
108189	Diisopropylamine (I)	1,200	350	35,000	26,000	350	35,000	3.8E+05	9,000	51,000
127195	N,N-Dimethylacetamide	nc	nc	nc	nc	nc	nc	nc	nc	nc
121697	N,N-Dimethylaniline (CC)	36 (DD)	190 (M) (DD)	23,000 (DD)	11,000 (DD)	190 (M) (DD)	23,000 (DD)	1.1E+05 (DD)	3,400 (DD)	23,000 (DD)
68122	Dimethylformamide (I,CC)	dev	dev	dev	dev	dev	dev	dev	dev	dev
123911	1,4-Dioxane (I)	3,500	2,900	7,000	79,000	2,900	7,000	1.2E+06	75,000	10,000
115297	Endosulfan (J)	nc	nc	nc	nc	nc	nc	nc	nc	nc
106898	Epichlorohydrin (I,CC)	1.9E+07	3.8E+06	3,500	1.5E+08	3.8E+06	3,500	1.0E+09 (S)	3.9E+07	5,400
64175	Ethanol (I,DD,EE,FF)	nc	nc	nc	nc	nc	nc	sol	nc	nc
141786	Ethyl acetate (I)	1.1 (M)	NA	71	1.1 (M) (CC)	NA	71	14 (CC)	NA	170
637923	Ethyl-tert-butyl ether (ETBE) (CC)	ca	NA	ca	ca	NA	ca	ca	NA	ca
100414	Ethylbenzene (I)	2,700	NA	240	2,700 (CC)	NA	240	13,000 (CC)	NA	360
106934	Ethylene dibromide	nc	nc	nc	nc	nc	nc	nc	nc	nc
86737	Fluorene	1,900	360 (M)	170	25,000	360 (M)	170	6.8E+05	15,000	400
50000	Formaldehyde (DD,MM)	ca	ca	ca	ca	ca	ca	ca	ca	ca
64186	Formic acid (I,U)	NA	NA	NA	NA	NA	NA	NA	NA	NA
76448	Heptachlor (DD,KK)	0.99 (M)	NA	35	0.99 (M) (CC)	NA	35	5.9 (CC)	NA	51
1024573	Heptachlor epoxide (KK,CC)	nc	NA	nc	nc	NA	nc	nc	NA	nc
142825	n-Heptane	1.0E+05 (FF)	1.3E+06 (EE)	6.3E+05 (EE)	8.3E+07	1.3E+06 (EE)	6.3E+05 (EE)	1.0E+09 (S)	2.3E+07 (EE)	6.3E+05 (EE)
87821	Hexabromobenzene	st	st	st	st	st	st	sol	st	st
118741	Hexachlorobenzene (C-66) (KK)	910	210	2,400	18,000	210	2,400	2.7E+05	5,300	3,600
87683	Hexachlorobutadiene (C-46) (KK)	nc	nc	nc	nc	nc	nc	nc	nc	nc
		22	NA	13,000	22 (CC)	NA	13,000	580 (CC)	NA	19,000
		nc	nc	nc	nc	nc	nc	nc	nc	nc
		2.8	12 (M)	340	64	12 (M)	340	1,500	500	800
		ca	ca	ca	ca	ca	ca	ca	ca	ca
		0.13	7.4E-02 (M)	1.4	4.4	7.4E-02 (M)	1.4	95	3.0 (M)	3.3
		ca	ca	ca	ca	ca	ca	ca	ca	ca
		1,700 (S)	4.7E+05	4,900	1,700 (S)	4.7E+05	4,900	1,700 (S)	1.2E+07	7,200
		sol	nc	nc	sol	nc	nc	sol	nc	nc
		3,000	530 (M)	27 (MM)	25,000 (MM)	530 (M)	27 (MM)	2.0E+06	53,000	150
		mut	mut	mut	mut	mut	mut	ca	ca	ca
		2,500	440 (M)	10	24,000	440 (M)	10	4.5E+05	11,000 (M)	15
		nc	nc	nc	nc	nc	nc	nc	nc	nc
		0.25	3,600	0.65	12	NA	0.65	180 (S)	1.5E+05	1.5
		ca	ca	ca	ca	NA	ca	sol	ca	ca
		1.4E-02	NA	0.33	1.4E-02 (CC)	NA	0.33	0.20 (CC)	NA	0.77
		ca	ca	ca	ca	ca	ca	ca	ca	ca
		150	130	1.2E+05	150 (GW)	130	1.2E+05	3,400 (S) (GW)	3,300	1.8E+05
		nc	nc	nc	nc	nc	nc	sol	nc	nc
		NA	NA	NA	NA	NA	NA	NA	NA	NA
		0.11 (M)	6.7 (M)	1.2	5.2	6.7 (M)	1.2	6.2 (S)	170 (M)	1.8
		nc	nc	nc	nc	nc	nc	sol	nc	nc
		0.32	2.5 (M)	39	16	2.5 (M)	39	320	100	91
		ca	ca	ca	ca	ca	ca	ca	ca	ca

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
77474	Hexachlorocyclopentadiene (C-56)	3.0E-02 (M) nc	0.32 (M) nc	7.0 nc	1.2 (M) nc	0.32 (M) nc	7.0 nc	16 (M) nc	8.2 (M) nc	10 nc
67721	Hexachloroethane (KK)	1.5 (M) ca	3.2 (M) ca	85 ca	70 ca	NA ca	85 ca	1,400 ca	130 (M) ca	200 ca
110543	n-Hexane	29 nc	25 nc	24,000 nc	29 (GW) nc	25 nc	24,000 nc	1,000 (GW) nc	640 nc	36,000 nc
591786	2-Hexanone	660 nc	210 (M) nc	1,000 nc	14,000 nc	210 (M) nc	1,000 nc	2.0E+05 nc	5,500 nc	1,500 nc
78831	Isobutyl alcohol (I)	4.0E+05 nc	79,000 nc	52,000 nc	5.4E+06 nc	79,000 nc	52,000 nc	8.5E+07 (S) sol	2.0E+06 nc	77,000 nc
67630	Isopropyl alcohol (I,DD)	53,000 nc	9,800 nc	7,000 nc	6.7E+05 nc	9,800 nc	7,000 nc	1.2E+07 nc	2.5E+05 nc	10,000 nc
98828	Isopropyl benzene	0.60 (M) ca	3.8 (M) ca	81 ca	15 ca	3.8 (M) ca	81 ca	320 ca	150 (M) ca	190 ca
58899	Lindane (KK)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Varies	Mercury (Total) (Z,DD,KK)	8.8E-02 nc	2.7E-02 nc	10 nc	2.1 nc	2.7E-02 (M) nc	10 nc	30 nc	0.70 (M) nc	15 nc
74828	Methane (K)	NA	NA	8.4E+06 (GG)	NA	NA	NA	NA	NA	8.4E+06 (GG)
67561	Methanol (DD)	1.2E+05 (DD) dev	1.4E+06 (DD) dev	6.7E+05 (DD) dev	7.6E+07 (DD) dev	1.4E+06 (DD) dev	6.7E+05 (DD) dev	9.8E+08 (DD) dev	2.4E+07 (DD) dev	6.7E+05 (DD) dev
109864	2-Methoxyethanol (I,DD)	8,400 nc	1,500 nc	38 nc	1.0E+05 nc	1,500 nc	38 nc	1.8E+06 nc	38,000 nc	56 nc
109024	N-Methyl-morpholine (I)	NA	NA	NA	NA	NA	NA	NA	NA	NA
108101	4-Methyl-2-pentanone (MIBK) (I,DD)	720 (DD) dev	12,000 (DD) dev	1.0E+05 (DD) dev	8.9E+05 (DD) dev	12,000 (DD) dev	1.0E+05 (DD) dev	8.9E+06 (DD) dev	2.1E+05 (DD) dev	1.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	250 ca	74 (M) ca	3,300 ca	5,800 ca	74 (M) ca	3,300 ca	1.3E+05 ca	3,000 ca	7,700 ca
96377	Methylcyclopentane (I)	30 (M) nc	29 (M) nc	24,000 nc	73 nc	29 (M) nc	24,000 nc	1,100 nc	740 (M) nc	36,000 nc
75092	Methylene chloride (MM)	79 (FF) st	130 nc	21,000 nc	5,400 nc	130 nc	21,000 nc	82,000 nc	3,300 nc	31,000 nc
91576	2-Methylnaphthalene	66 nc	1,700 nc	350 nc	1,900 nc	1,700 nc	350 nc	25,000 (S) sol	44,000 nc	510 nc
2385855	Mirex	NA	NA	NA	NA	NA	NA	NA	NA	NA
91203	Naphthalene	4.2 (M) ca	67 (M) ca	25 ca	110 ca	67 (M) ca	25 ca	2,500 ca	2,700 ca	59 ca
98953	Nitrobenzene (I,KK)	68 ca	170 (M) ca	21 ca	1,200 ca	170 (M) ca	21 ca	29,000 ca	6,900 ca	50 ca
88755	2-Nitrophenol (CC)	0.12 (M) nc	NA nc	1.7 nc	0.12 (M) (CC) nc	NA nc	1.7 nc	0.71 (M) (CC) nc	NA nc	2.6 nc
608935	Pentachlorobenzene (CC)	8.6E-03 (M) nc	NA nc	3.5 nc	8.6E-03 (M) (CC) nc	NA nc	3.5 nc	0.18 (M) (CC) nc	NA nc	5.1 nc
82688	Pentachloronitrobenzene (CC)	8.5 (M) nc	NA nc	380 nc	8.5 (M) (CC) nc	NA nc	380 nc	86 (CC) nc	NA nc	560 nc
109660	Pentane	40 (M) nc	36 (M) nc	35,000 nc	40 (M) (GW) nc	36 (M) nc	35,000 nc	1,400 (GW) nc	910 (M) nc	51,000 nc

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
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109682	2-Pentene (I)	NA	NA	NA	NA	NA	NA	NA	NA	NA
335671	Perfluorooctanoic acid	NA	NA	NA	NA	NA	NA	NA	NA	NA
85018	Phenanthrene (CC)	7.7E-02 (M) nc	NA	3.5 nc	7.7E-02 (M) (CC) nc	NA	3.5 nc	0.68 (M) (CC) nc	NA	5.1 nc
110894	Piperidine (CC)	45,000 nc	NA	2.4E+05 nc	45,000 (CC) nc	NA	2.4E+05 nc	2.4E+05 (CC) nc	NA	3.6E+05 nc
1336363	Polychlorinated biphenyls (PCBs) (I,T,DD,CC)	3.1E-02 (M) ca	NA	8.5 ca	3.1E-02 (M) (CC) ca	NA	8.5 ca	0.97 (CC) ca	NA	20 ca
79094	Propionic acid	1.2E+06 nc	2.2E+05 nc	10,000 nc	1.5E+07 nc	2.2E+05 nc	10,000 nc	2.6E+08 nc	5.7E+06 nc	15,000 nc
71238	Propyl alcohol (I,DD)	2,700 (DD) dev	40,000 (DD) dev	24,000 (DD) dev	2.7E+06 (DD) dev	40,000 (DD) dev	24,000 (DD) dev	3.1E+07 (DD) dev	7.0E+05 (DD) dev	24,000 (DD) dev
103651	n-Propylbenzene (I,DD)	43 (DD) dev	1,800 (DD) dev	33,000 (DD) dev	5,900 (DD) dev	1,800 (DD) dev	33,000 (DD) dev	52,000 (S) (DD) sol	31,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc	140 (S) sol	2.5E+07 nc	3,500 nc	140 (S) sol	6.4E+08 nc	5,100 nc
110861	Pyridine (I,KK)	600 nc	540 nc	120 nc	8,200 nc	540 nc	120 nc	1.4E+05 nc	14,000 nc	180 nc
100425	Styrene	33 ca	150 ca	1,500 ca	800 ca	150 ca	1,500 ca	18,000 ca	6,300 ca	3,500 ca
95943	1,2,4,5-Tetrachlorobenzene (DD)	3.1 nc	70 (M) nc	35 nc	140 nc	70 (M) nc	35 nc	600 (S) sol	1,800 nc	51 nc
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin (O,DD,CC)	3.8E-07 (M) ca	NA	1.9E-05 ca	3.8E-07 (M) ca	NA	1.9E-05 ca	6.3E-06 (M) ca	NA	4.5E-05 ca
630206	1,1,1,2-Tetrachloroethane	3.1 ca	3.2 (M) ca	110 ca	100 ca	3.2 (M) ca	110 ca	2,200 ca	130 ca	270 ca
79345	1,1,2,2-Tetrachloroethane	2.4 ca	2.7 (M) ca	15 ca	72 ca	2.7 (M) ca	15 ca	1,600 ca	110 ca	34 ca
127184	Tetrachloroethylene (KK,EE,FF)	1.5 (FF) st	6.2 (M) st	1,400 st	140 st	6.2 (M) st	1,400 st	1,300 st	110 st	1,400 st
109999	Tetrahydrofuran (DD)	45,000 nc	13,000 nc	70,000 nc	7.6E+05 nc	13,000 nc	70,000 nc	1.2E+07 nc	3.3E+05 nc	1.0E+05 nc
632224	1,1,3,3-Tetramethylurea (CC)	2,700 nc	NA	28 nc	2,700 (CC) nc	NA	28 nc	16,000 (CC) nc	NA	41 nc
509148	Tetranitromethane (CC)	2.7E-04 (M) ca	NA	5.6E-02 ca	2.7E-04 (M) (CC) ca	NA	5.6E-02 ca	6.2E-03 (M) (CC) ca	NA	0.13 ca
108883	Toluene (I,EE,FF)	300 (FF) st	3,700 nc	1.7E+05 nc	32,000 nc	3,700 nc	1.7E+05 nc	4.6E+05 st	93,000 st	2.5E+05 st
2303175	Triallate (DD,CC)	530 (DD) dev	NA	6,700 (DD) dev	530 (DD) (CC) dev	NA	6,700 (DD) dev	3,500 (DD) (CC) dev	NA	6,700 (DD) dev
102829	Tributylamine	170 nc	3,300 nc	240 nc	6,800 nc	3,300 nc	240 nc	90,000 nc	85,000 nc	360 nc
87616	1,2,3-Trichlorobenzene	58 nc	830 nc	940 nc	2,300 nc	830 nc	940 nc	18,000 (S) sol	21,000 nc	1,400 nc
120821	1,2,4-Trichlorobenzene	3.8 (M) nc	53 (M) nc	70 nc	150 nc	53 (M) nc	70 nc	1,900 nc	1,300 nc	100 nc
71556	1,1,1-Trichloroethane	180 (EE) (FF) st	450 st	1.7E+05 st	12,000 st	450 st	1.7E+05 st	1.7E+05 st	11,000 st	2.3E+05 st

RE:0163R1F120U2N1F6, PNC		VI Tier 1			VI Tier 2			VI Tier 3A		
CAS No.	Hazardous Substance	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Residential µg/l	Soil Residential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Residential µg/m3	Groundwater Nonresidential µg/l	Soil Nonresidential µg/kg	SOIL VAPOR INCLUDING SUBSLAB Nonresidential µg/m3
79005	1,1,2-Trichloroethane	4.7E-04 (M) nc	3.7E-04 (M) nc	7.0E-03 nc	1.2E-02 (M) nc	3.7E-04 (M) nc	7.0E-03 nc	0.17 (M) nc	9.5E-03 (M) nc	1.0E-02 nc
79016	Trichloroethylene (DD,KK,MM,NN)	7.3E-02 (M) (DD) dev	0.33 (M) (DD) dev	67 (DD) dev	8.8 (DD) dev	0.33 (M) (DD) dev	67 (DD) dev	85 (DD) dev	5.8 (M) dev	67 (DD) dev
75694	Trichlorofluoromethane	22 nc	19 (M) nc	15,000 nc	170 nc	19 (M) nc	15,000 nc	2,400 nc	490 nc	22,000 nc
96184	1,2,3-Trichloropropane	1.9 nc	2.6 (M) nc	10 nc	51 nc	2.6 (M) nc	10 nc	720 nc	66 (M) nc	15 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	840 nc	860 nc	6.6E+05 nc	3,900 nc	860 nc	6.6E+05 nc	51,000 nc	22,000 nc	9.7E+05 nc
1582098	Trifluralin (CC)	180 (S) sol	NA nc	1.0E+05 nc	1,100 (S) (CC) sol	NA nc	1.0E+05 nc	15,000 (S) (CC) sol	NA nc	1.5E+05 nc
540841	2,2,4-Trimethyl pentane	160 nc	130 (M) nc	1.2E+05 nc	160 (GW) nc	130 (M) nc	1.2E+05 nc	2,400 (S) (GW) sol	3,200 nc	1.8E+05 nc
107404	2,4,4-Trimethyl-2-pentene (I)	NA	NA	NA	NA	NA	NA	NA	NA	NA
526738	1,2,3-Trimethylbenzene (I)	43 nc	270 nc	2,100 nc	1,200 nc	270 nc	2,100 nc	16,000 nc	7,000 nc	3,100 nc
95636	1,2,4-Trimethylbenzene (I)	25 nc	150 nc	2,100 nc	640 nc	150 nc	2,100 nc	8,900 nc	3,800 nc	3,100 nc
108678	1,3,5-Trimethylbenzene (I)	18 nc	100 nc	2,100 nc	450 nc	100 nc	2,100 nc	6,300 nc	2,600 nc	3,100 nc
126727	tris(2,3-Dibromopropyl)phosphate (CC)	7.4E-02 (M) ca	NA ca	1.6 ca	7.4E-02 (M) (CC) ca	NA ca	1.6 ca	1.2 (M) (CC) ca	NA ca	3.8 ca
108054	Vinyl acetate (I,DD)	690 nc	160 (M) nc	7,000 nc	15,000 nc	160 (M) nc	7,000 nc	2.2E+05 nc	4,100 (M) nc	10,000 nc
75014	Vinyl chloride (KK,LL,MM)	0.12 (M) mut	8.2E-02 (M) mut	54 (MM) mut	1.3 (MM) mut	8.2E-02 (M) mut	54 (MM) mut	110 ca	12 (M) ca	450 ca
1330207	Xylenes (I,I)	75 nc	280 nc	7,600 nc	1,700 nc	280 nc	7,600 nc	24,000 nc	7,200 nc	11,000 nc

NOTE: All notes or footnotes identified above are detailed in the proposed rule generic cleanup criteria table footnotes (R 299.49). The proposed rules are available at:
http://dmbinternet.state.mi.us/DMB/ORRDocs/ORR/1604_2015-094EQ_orr-draft.pdf