



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY - REMEDIATION AND
REDEVELOPMENT DIVISION
PO BOX 30426, LANSING, MICHIGAN 48909-7926, Phone 517-284-5087

Request for EGLE Review of No Further Action (NFA) Report

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

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

Residential	☐	Unrestricted	☐
Non-Residential	☒	Restricted	☒
20b(3) Site Specific or Surrogate (no generic criteria available)	☐	20b(2) Site Specific (modification of generic criteria)	☐

The NFA addresses the entire facility
(entire facility as defined by Part 201, all releases, hazardous substances, and environmental media): ☐

The NFA does not address the entire facility ☒
Please specify the release(s), hazardous substance(s), environmental media, and/or portions of the facility addressed by the NFA.

This NFA is for a defined off-site area located within the City of Pontiac North Mill Street Right-of-Way (ROW) located immediately west of the former RACER Trust Employee Development Center property (Facility ID 630060) at 65 East University Avenue in Pontiac, Michigan. This area was previously excluded from the November 15, 2016 Part 201 No Further Action Request and EGLE's (MDEQ's) Approval of No Further Action issued on December 6, 2016. In advance of this request, a Public Highway Institutional Control (PHIC) was submitted to the City of Pontiac Department of Public Works (DWP) on March 17, 2021.

NFA relies on a De minimus determination of GSI impact pursuant to Section 20120e(14): ☐

Section B: Facility Information:

Facility Name: RACER – Employee Development Center (Off-site North Mill Street ROW Area)	County: Oakland
Street Address of Property: Defined Area within North Mill Street ROW west of 65 East University Drive	City/Village/Township: Pontiac Range: 10 East Section: 29
City: Pontiac State: Michigan Zip: 48342	Town: 3 North Quarter: SE Quarter-Quarter NE
Property Tax ID (include all applicable IDs addressed by the NFA) City of Pontiac, North Mill Street ROW (surveyed area defined in NFA Request)	Decimal Degrees Latitude: Decimal Degrees Longitude:
Status of submitter relative to the property (check all that apply): Former Current Prospective	Reference point for latitude and longitude: Center of site ☒ Main/front door ☐ Front gate/main entrance ☐ Other ☐
Owner ☐	Collection method: Survey ☐ GPS ☐ Interpolation ☐
Operator ☐	

Section C: Submitter Information:

Entity/person requesting review: **RACER Trust**

Contact Person (name and title): **Brad Saunders, Project Manager**
Arcadis of Michigan, LLC; Brad.Saunders@arcadis.com; 517-974-4441

Submitter's Address: **1505 Woodward Avenue, Suite 200**

City: **Detroit**

State: **MI**

Zip: **48226**

Telephone: **734-879-9525**

E-Mail: **dfavero@racertrust.org**

Relationship of Contact Person to the Submitter: **Consultant**

Owner Name, if different from Submitter:

Company: **N/A**

City of Pontiac

(attn.: Department of Public Works)

Owner Address:

City: **Pontiac**

State: **MI**

Zip: **48341**

47450 Woodward Ave., 1st Floor

Telephone: **248-758-3600**

E-Mail: **DPW@pontiac.mi.us**

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

Facility regulated under Part 201, source other than listed below or source unknown
Part 201 Site ID, if known:

☒

Leaking Underground Storage Tank regulated pursuant to Part 213.
Part 211/213 Facility ID, if known:

☒

Oil or gas production and development regulated pursuant to Part 615 or 625

☐

Licensed landfill regulated pursuant to Part 115

☐

Licensed hazardous waste treatment, storage, or disposal facility regulated pursuant to Part 111

☐

Consent Agreement or other legal agreement with EGLE

☐

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

	Current	Previously	Unknown
Mobil or migrating non aqueous phase liquids (NAPL)	☐	☐	☐
Soil contamination above residential criteria	☐	☐	☐
Soil contamination above non-residential criteria	☐	☐	☐
Soil aesthetic impacts	☒	☐	☐
Groundwater contamination above residential criteria	☒	☐	☐
Groundwater contamination above non-residential criteria	☒	☐	☐
Groundwater aesthetic impacts	☒	☐	☐
Soil Gas contamination above residential vapor intrusion (VI) screening levels	☐	☐	☐
Soil Gas contamination above non-residential VI screening levels	☐	☐	☐
Conditions immediately dangerous to life or health (IDLH)	☐	☐	☐
Fire & Explosion hazards related to releases	☐	☐	☐
Contamination existing in drinking water supply	☐	☐	☐
Imminent threat to drinking water supply	☐	☐	☐
Impact to surface water	☐	☐	☐
Impact to surface water sediments above screening levels	☐	☐	☐

Section F: The following questions assist EGLE in evaluating the No Further Action Report:

Have other plans or reports, BEAs, DDCCs, NFAs, etc. been submitted for this facility?

Facility Name, if different than this submittal: **RACER Trust, Employee Development Center (Facility ID 6300600)**

Date and Name of most recent submittal: **Nov 15, 2016 NFA Request, Dec 6, 2016 NFA, Multiple GW Monitoring Report Updates**

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

Current

Previously

Excavation
Physical or Engineered Exposure Barrier
Active Soil Remediation System
In-situ Soil Remediation
Active Groundwater Remediation System
In-situ Groundwater Remediation
Groundwater Monitored Natural Attenuation
Containment, Physical or Hydraulic
Vapor Intrusion Barrier
Vapor Intrusion Remediation System
Other, Specify:

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Remedial Action Relies on (Check all that apply):	
Mixing Zone	☐
Part 201 Section 20118(4) and (5)	☐
MIOSHA demonstration (Section 20120a(18))	☐
Restrictive Covenant	☐
Institutional Control (Section 20121(8))	☒
Alternative Instruments (Section 20121(9))	☐
Post Closure Plan and Components:	
Post Closure Plan Required? Yes ☒ No (Residential, Unrestricted Category Only) ☐	
Plan Includes:	
Permanent Markers	☐
Restrictive Covenant	☐
Other Institutional Controls	☒
Post Closure Agreement and Components:	
Post Closure Agreement Required? Yes ☐ No ☒	
Agreement Includes:	
FAM	☐
FAM, de minimus	☐
Waiver of Permanent Marker	☐

Section G: Attachments (Required):

	Yes
Environmental Professional's Affidavit is attached:	☒
Environmental Professional's Certificate of Insurance is attached:	☒
Submitter's Affidavit is attached:	☒

Section H: Environmental Professional Signature:

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

Signature:  Date: 1-6-2022

Printed Name: **Michael A. Pozniak**

Company: **Arcadis of Michigan, LLC**

Mailing Address: **300 S. Washington Square, Suite 315** City: **Lansing** State: **MI** Zip: **48933**

Telephone: **517-324-5054** E-mail: **Mike.Pozniak@arcadis.com**

Section I: Submitter Signature:

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

Signature:  Date: 1/3/2022

(Person legally authorized to bind the legal entity)

Printed Name: **David Favero**

Title and Relationship of signatory to submitter: **RACER Trust Deputy Cleanup Manager – Michigan**

Address: **1505 Woodward Avenue, Suite 200** City: **Detroit** State: **MI** Zip: **48226**

Telephone: **734-879-9525** E-Mail: **dfavero@racertrust.org**

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

Environmental Consultant Affidavit for No Further Action Report

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

State of Michigan)
)
County of Ingham)

1. I, Michael A. Pozniak, am an Environmental Consultant whose title is, Certified Professional, and I am employed by Arcadis of Michigan, LLC.
2. I meet the professional qualifications set forth in MCL 324.20114e(2) of NREPA. A description of my qualifications, including education and work experience, is attached.
3. I have prepared a No Further Action (NFA) report dated January 3, 2022 for the facility referred to as RACER – Pontiac Employee Development Center (Off-site North Mill Street ROW Area) and located within a defined area in the City of Pontiac North Mill Street ROW west of 65 East University Drive, Pontiac, Michigan (the "Facility.") I am submitting this affidavit pursuant to MCL 324.20114d(5).
4. I prepared the NFA Report at the request of RACER Trust located at 1505 Woodward Avenue, Suite 200, Detroit, MI 48226.
5. The remedial action at the Facility described in the NFA report was conducted in compliance with Part 201 of the NREPA, and all other applicable local, state, and federal laws and regulations.
6. I affirm to the best of my knowledge and belief that the NFA report prepared for this Facility, and all information, data, documents and reports relied upon for this NFA report, are true, accurate and complete.



Signature of Affiant

Sworn to before me and subscribed in my presence this 10 day of January, 2022

Mary L. Cramer
Notary Public, Wayne County, Michigan
Acting Ingham County
My Commission Expires January 11, 2026



Notary Public

RACER Trust

No Further Action Request Report

**North Mill Street Right-Of-Way Area
West of Former Employee Development Center
65 East University Drive, Pontiac, Michigan
Part 201 Facility ID No.: 63006001
Part 213 Facility ID No.: 0-0015260**

January 3, 2022

No Further Action Request Report

North Mill Street Right-Of-Way Area
West of Former Employee Development Center
65 East University Drive, Pontiac, Michigan
Part 201 Facility ID No.: 63006001
Part 213 Facility ID No.: 0-0015260

January 3, 2022

Prepared By:

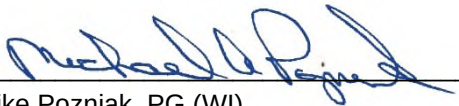
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RACER Trust

Our Ref:

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Mike Pozniak, PG (WI)
Principal Geologist



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1 Introduction

Arcadis of Michigan, LLC (Arcadis) has prepared this No Further Action (NFA) Request Report on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust for a defined Right-of-Way (ROW) area in North Mill Street (referred to as “North Mill Street ROW Area”) located adjacent to and west of the former Pontiac Employee Development Center (EDC) property located at 65 East University Drive, Pontiac, Michigan (referred to as the “Site”) (**Figure 1**). The Former Employee Development Center Site is classified by both the Part 201 Facility ID Number 63006001 and the Part 213 Facility ID Number 0-0015260.

On November 10, 2016, after completing environmental investigation, remediation and monitoring activities, RACER filed a NFA Request (Arcadis, 2016) for the Site, but the request excluded the North Mill Street ROW Area owned by the City of Pontiac (refer to **Figure 2**). The Michigan Department of Environmental, Great Lakes and Energy (EGLE) (formerly MDEQ) issued Approval for NFA for the Site on December 6, 2016 (MDEQ, 2016), also specifically excluding the North Mill Street ROW Area. With the approval of EGLE, Arcadis abandoned remaining monitoring wells located within the Site boundaries on January 3, 2017. On February 22, 2017, RACER sold the Site to George W Auch Company (Auch). From 2017-2018, Auch redeveloped the Site and constructed its headquarters building maintaining compliance with an October 24, 2016 Declaration of Restrictive Covenant (2016 DRC - RACER Properties LLC, 2016) which RACER recorded with the Oakland County Register of Deeds for the Site previous to requesting and obtaining approval for NFA.

The purpose of this Report is to request approval for No Further Action for the North Mill Street ROW Area under Part 201, and also for the Part 213 case for the Site which remains open at this time. Implemented remedies satisfy the requirements established under Parts 201 and 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA) (Public Act 451), as amended (Criteria). As required under Section 324.20114(d) of Public Act 451, Arcadis is also submitting a Request for EGLE Review of the Report Form with this report.

From 2017 through June 2021, routine sampling and analysis of shallow groundwater continued from five remaining off-site monitoring wells located within the North Mill Street ROW Area. Given that the source of residual shallow groundwater impacts in the North Mill Street ROW was from an area at the Site, which was remediated in 2012, impacts have gradually declined and/or naturally attenuated over time. On March 17, 2021, Arcadis filed a Public Highway Institutional Control (PHIC) with the City of Pontiac. Site-Specific Volatilization to Indoor Air Criteria (SSVIAC) for the North Mill Street ROW Area were requested and received from EGLE on April 6, 2021, as part of the evaluation of residual shallow groundwater impacts for the potential vapor intrusion pathway into nearby buildings. Based on residual shallow groundwater impacts and an analysis of the potential exposure pathways for the North Mill Street ROW Area, Arcadis has prepared this No Further Action Request Report. This Report summarizes the Site history, regional and local hydrogeologic conditions, environmental monitoring, and potential exposure pathway evaluation.

1.1 Location of North Mill Street ROW Area

The North Mill Street ROW Area is an approximate 142-foot by 47-foot rectangular section of land occupying approximately 0.15 acres within North Mill Street north of University Drive and west of the property at 65 East University Drive in Pontiac, Oakland County, Michigan (southeastern ¼ of Section 29, Township 03 North, Range 10 East) (**Figure 1**). City of Pontiac streets do not have a zoning designation. However, the adjacent Site at 65

East University Drive is zoned C-3 for Corridor Commercial, while other surrounding properties are zoned C-2 for Downtown Mixed-Use District. The North Mill Street ROW Area is depicted in **Figure 2**.

The North Mill Street ROW Area is located in an area of primarily commercial properties. Surrounding properties are zoned C-2 for Downtown Mixed-Use District and include commercial buildings and associated parking lots to the east, west, and south, with three residential properties located over 200 feet to the northeast.

Shallow perched groundwater is generally encountered in the North Mill Street ROW Area at depths ranging between approximately 2.5 to 9.1 feet below ground surface (bgs). Storm drains present within North Mill Street lead to the nearby Augusta Relief Drain, which routes area drainage into the Clinton River approximately 350 feet to the southeast.

1.2 North Mill Street ROW Area History

Historic references associated with previous reports for the Site indicate that North Mill Street has existed as a City of Pontiac Street since at least 1950. Historic references indicate that surrounding property use for north, east and south adjacent properties have been generally unchanged over time. Property environmental investigation and remediation history are described in the November 10, 2016 No Further Action Request Report for the Site.

1.3 Physical Setting

1.3.1 Regional Topography

The Pontiac North 7.5-minute quadrangle map (USGS 1968; photo revised 1983) indicates that land in the vicinity of the North Mill Street ROW Area is at an elevation of approximately 918 feet above mean sea level (msl). The natural topography is relatively flat and generally slopes south-southeast towards the Clinton River.

1.3.2 Regional Soil and Geology

Information regarding the regional geology in the North Mill Street ROW Area was obtained from a Geocheck® Addendum to an Environmental Database Resources (EDR) Radius Map Report associated with a previous investigation at the Site, as well as lithology from the City of Pontiac's Paddock Standby Water Well located approximately 0.4-mile east of the Site as further described in **Section 3.2.2** of this report. EDR regional data indicates that the surface soil texture in the area is variable consisting of loamy sand, sandy loam, silt loam and muck. The soil component name is Urbanland. Soils do not meet the requirements for a hydric soil. The regional shallow soil types consist of loamy sands. EDR describes regional deeper soil types as fine sand, stratified and muck. Lithology from the City well indicates the presence of two confining clay layers at that location – one approximate 20-foot thick layer located down to 23 feet bgs, and a second extending from 38 to 73 feet bgs. EDR indicates that underlying bedrock consists of Coldwater Shale.

1.3.3 North Mill Street ROW Area Geology

The surface within the North Mill Street ROW Area is primarily asphalt, with the exception of curbs along the street boundaries and a concrete sidewalk along the east boundary of the ROW. Material encountered in

boreholes associated with monitoring wells installed during previous investigations in the North Mill Street ROW Area consisted of primarily sand fill with interbedded layers of clay down to 10 feet bgs. The lithology is characterized in the boring logs included in **Appendix A** and depicted in cross sections included as **Figures 3A** through **3D**.

1.3.4 Site Hydrogeology

Based on the results of periodic monitoring well gauging within the North Mill Street ROW Area, shallow groundwater is present at a depth ranging from 2.5 to 9.1 feet bgs. The predominant shallow material in the North Mill Street ROW Area is sandy fill with interbedded lenses of clay and sandy clay. The results of groundwater gauging conducted of both the remaining North Mill Street ROW Area monitoring wells and the former monitoring wells at the Site prior to 2017 indicated that localized groundwater flow in the North Mill Street ROW Area was radial from the east-adjacent Site to the northwest, west, and southwest across the North Mill Street ROW Area.

North Mill Street is improved with storm drain catch basins, with area storm drains lead to the Augusta Relief Drain. The Augusta Relief Drain consists of two parallel 10.5-foot diameter concrete pipes existing at approximately 15 feet bgs which traverse the Site extending northwest to southeast. The Augusta Relief Drain leads into the Clinton River, which is located approximately 350 feet southeast of the North Mill Street ROW Area.

A more detailed discussion related to the groundwater flow conditions during recent groundwater monitoring events is provided in **Section 3.2.2** of this Report. The encountered high and low water levels are listed in **Table 2** and presented on the cross-sectional diagrams (**Figures 3B–3D**) and the Groundwater Elevation Map (**Figure 6**).

2 Previous Site Investigation and Remediation History

Details of previous environmental investigation, remediation, and monitoring activities conducted from 1992 through 2016 applicable to the Site at 65 East University Drive and adjacent North Mill Street ROW Area are provided in Sections 2 and 3 of the Arcadis November 10, 2016 NFA Report. Information provided in the report resulted in EGLE's issuance of the Approval for NFA for the Site (excluding the North Mill Street ROW Area) on December 6, 2016.

In summary, while former industrial/commercial activities at the Site resulted in impacts to soil and groundwater at the Site, no such activities occurred within the North Mill Street ROW Area. Investigation activities revealed that impacts to a portion of the North Mill Street Area were due to migration of limited residual fuel-related and chlorinated volatile organic compound (VOC) contaminants in groundwater from the Site. While active remediation of the source area and implementation of a DRC at the Site were used to support NFA for the Site, the basis being used to support this NFA Request for the North Mill Street ROW Area is accelerated natural attenuation based on source removal, monitoring of groundwater impacts (refer to Section 3), and filing of the PHIC (refer to Section 4).

3 North Mill Street ROW Area Groundwater Monitoring and Soil/Groundwater Data Summary

3.1 North Mill Street ROW Area Groundwater Monitoring Activities (2017-2021)

Following EGLE's issuance of the Approval for NFA for the Site on December 6, 2016, and subsequent abandonment of twenty-five remaining on-Site monitoring wells on January 3, 2017, five off-site groundwater monitoring wells were kept to evaluate concentrations and trending of residual shallow groundwater impacts in the North Mill Street ROW Area. Remaining monitoring wells in the North Mill Street ROW Area included MW-19, MW-20, MW-25, MW-26, and MW-27. From March 2017 through June 2021, ten groundwater monitoring events were conducted to gauge groundwater elevations and evaluate residual impacts in shallow groundwater. Events were conducted on the following dates:

- March 29, 2017, and September 27, 2017;
- April 10, 2018, and October 16, 2018;
- April 9, 2019, July 12, 2019, and October 4, 2019;
- December 8, 2020; and
- March 8, 2021, and June 8, 2021.

For each event, Arcadis gauged each of the five remaining monitoring wells, and collected samples for analysis of VOCs (USEPA Method 8260) based on residual impacts present in two of the monitoring wells during investigation and monitoring activities conducted prior to obtaining the Approval for NFA for the Site. Groundwater samples were collected using low-flow sampling techniques. Samples were collected in laboratory-supplied pre-preserved containers, placed on ice, and submitted via lab courier to Merit Laboratories (Merit) of Lansing, Michigan.

3.2 North Mill Street ROW Area Data Summary

3.2.1 Soil Data Summary

As previously indicated, while former industrial/commercial activities at the Site resulted in impacts to soil and groundwater at the Site, no such activities occurred in the North Mill Street ROW Area. Impacts to a portion of the North Mill Street Area were due to migration of limited residual fuel-related and chlorinated VOC contaminants in groundwater from the Site. Therefore, evaluation of soil was limited to observations and samples obtained during the previous installation of soil borings which were located in the North Mill Street ROW immediately outside of the Site boundary, and the five remaining monitoring wells installed to evaluate and delineate groundwater impacts migrating from the east-adjacent Site. At the time of prior investigation activities when sampling was conducted, the primary purpose of analyzing soil at the boundary of the Site and North Mill Street ROW Area was to ensure that soil impacts were delineated for the east-adjacent Site, and that there were no other contamination sources affecting off-site groundwater.

Soil borings B-12 and B-13 were installed in November 2006, and soil boring B-35 was installed in September 2007. Monitoring wells MW-19 and MW-20 were installed off-site just west of the paved street within the west boundary of the North Mill Street ROW Area on November 17, 2010. Monitoring wells MW-25, MW-26, and MW-27 were installed within North Mill Street on January 8, 2013. Boring and monitoring well logs are provided in **Appendix A**. The locations of soil boring and monitoring wells within the North Mill Street ROW Area for which soil data is available are depicted in **Figure 4**. Soil samples included B-12 (8-10 feet bgs), B-13 (18-20 feet bgs), B-35 (0-2, and 6.8-8.8 feet bgs), MW-19 (4-5 feet bgs), MW-20 (4.5-5.5 feet bgs), MW-25 (6-7 feet bgs), MW-26 (4-5 feet bgs), and MW-27 (6-8 feet bgs). With the exception of location B-35, soil samples collected during the investigations were targeted at depths immediately above saturation levels at the time of installation given that there were no elevated photoionization detector (PID) readings. Of note and further considered in subsequent sections of this report, after the timeframe of past investigation activities at the Site during which soil samples were collected, it was later discovered that several of the soil samples were collected at depths within the fluctuating confined shallow groundwater table.

During November 2006 investigation activities, soil samples from B-12 and B-13 were analyzed for total petroleum hydrocarbons (TPH) via EPA Method 418.1 (as an indicator for petroleum impacts) and volatile organic compounds via EPA Method 8260B. During September 2007 investigation activities, the soil sample from B-35 was analyzed for VOCs, polynuclear aromatic hydrocarbons (PAHs) via EPA Method 8310, and lead via EPA Method 6010B. Samples from each of the five monitoring well locations were analyzed for VOCs, PAHs and lead. Analytical laboratory reports associated with these samples as well as numerous other soil samples at the east-adjacent Site were included in the 2016 NFA Request Report.

Soil sampling results from soil samples analyzed within the North Mill Street ROW Area are summarized in **Tables 1a and 1b**, and also depicted in cross-sections (**Figures 3B-3D**) and the Soil Analytical Databox Map (**Figure 4**). **Table 1a** provides comparison to Residential EGLE Cleanup Criteria, while **Table 1b** provides comparison to Nonresidential EGLE Cleanup Criteria. Soil sample results are compared to Groundwater-Surface Water Interface Protection (GSIP) Criteria, Residential and Nonresidential Drinking Water Protection (RDWP and NDWP) Criteria, Residential and Nonresidential Direct Contact (RDC and NRDC) Criteria, Residential and Nonresidential Ambient Air Criteria (RAAC and NAAC), and Residential and Nonresidential SSVIAC as issued by EGLE based on the request described in Section 1.0. In summary, there were no detections of PAHs or VOCs in soil sampled from any of the five monitoring well locations. The soil samples obtained from Borings B-12 and B-13 did not have indication of petroleum product contamination; B-12 had no detections of VOCs, and B-13 only had one VOC detection of methylene chloride at a concentration less than referenced criteria. While the soil sample at B-35 from 0-2 feet bgs did not have detections of VOCs or PAHs, the soil sample from 6.8-8.8 feet bgs did have detections of benzene, ethylbenzene, toluene and xylene (BTEX). Furthermore, TCE was detected in the soil sample at MW-27 from 6-8 feet bgs.

No exceedances of RDC, NRDC, or the most stringent RAAC or NAAC were detected in any of the soil samples. While BTEX exceedances of soil criteria were present in 2007 at B-35 (6.8-8.8 feet bgs) for GSIP, RDW and NRDW, and both Residential and Nonresidential SSVIAC, these gasoline-related impacts were later confirmed to be completely within the shallow groundwater table which has ranged from 2.48-4.99 feet bgs; the location of B-35 is at a location slightly east of monitoring well MW-26 where gasoline-related contaminants had migrated in groundwater. While an exceedance of TCE in soil for both Residential and Nonresidential SSVIAC was present at MW-27 (6-8 feet bgs), the detection of this contaminant was also later confirmed to be within the range of the shallow groundwater table which has fluctuated from 6.67-9.06 feet bgs.

In summary, based on details which are further described in Section 7.1.3 below, it is concluded that unsaturated soil impacts exceeding applicable soil criteria do not exist in the North Mill Street ROW. However, aesthetic impacts in soil located within the range of the shallow groundwater table do exist, which was identified in the PHIC filed for the North Mill Street ROW Area (**Appendix C**).

3.2.2 Groundwater Data Summary

As described in Section 3.1, groundwater monitoring and analysis of the five off-site monitoring wells located in the North Mill Street ROW continued after NFA was approved for the east-adjacent Site. Groundwater elevation and analytical data from the off-site monitoring wells is available back to the installation dates. Off-site monitoring wells MW-19 and MW-20 were installed in November 2010 slightly following former Site building demolition activities and prior to impacted soil removal activities in 2012, while MW-25, MW-25 and MW-27 were installed in January 2013 after soil excavation at the Site was implemented.

Groundwater elevation data from the remaining off-site monitoring wells is tabulated in **Table 2** and depicted on **Figure 6**. As shown in **Table 2** and depicted in **Figure 6**, shallow groundwater elevations measured at any one time across the five monitoring wells may vary up to approximately 4 feet. The groundwater elevation is consistently the highest at MW-26 and the lowest at MW-27. The minimum recorded depth to groundwater since installation of the wells was 2.5 feet bgs measured at MW-26 in March 2017, while the maximum recorded depth to groundwater was 9.1 feet bgs at MW-27 in September 2017. Depth to groundwater in each of the wells has fluctuated seasonally and over wet and dry periods from 2.4 to 2.8 feet bgs per well.

The groundwater flow direction across the North Mill Street ROW Area is best interpreted from data provided in Figures 6-9 of the 2016 NFA Request, given that it included consideration of groundwater elevation data from 25 on-Site monitoring wells which were abandoned in 2017 in addition to the remaining five off-site monitoring wells. Data from the report indicated that groundwater at the east-adjacent Site flowed radially in all directions from a local on-site peak elevation at the Site. This indicates that extending from MW-26, groundwater flows to the northwest, west, and southwest, respectively, which is depicted on **Figure 6**.

Historical groundwater analytical results from sampling the five off-site wells are included in **Table 3**, while the results of the most recent seven groundwater monitoring events conducted in the past three years since October 2018 are depicted in **Figure 5**. Laboratory analytical reports for the ten groundwater monitoring events conducted since March 2017 after the time that NFA was approved for the Site are included in **Appendix B**. Prior groundwater analytical reports may be referenced in the November 2016 NFA Request. Groundwater analytical results are compared to Groundwater-Surface Water Interface (GSI) Criteria, Residential and Nonresidential Drinking Water (RDW and NRDW) Criteria, and Residential and Nonresidential SSVIAC. Based on previous Site investigation reports and the evaluation of groundwater contaminants conducted prior to and since achievement of NFA for the Site, the target constituents for analysis in the off-site monitoring wells has been VOCs. While each of the five monitoring wells were also analyzed for PAHs and lead through the May 2014 groundwater monitoring event, with EGLE (formerly MDEQ) approval analytical parameters from October 2014 forward were limited to only VOCs based on Site investigation and characterization data and results through that time.

In summary, historically there were no detections of VOCs in groundwater from any of the samples collected from Monitoring Wells MW-19, MW-20 or MW-25 since installation of the wells. Monitoring Well MW-26, located in North Mill Street directly west of the western-most extent of the former soil excavation which extended up to east-adjacent Site property line, contained benzene at a concentration of 3,360 micrograms per liter (ug/L) in January

2013. **Figure 5B** depicts the sharp decreases in the concentration of benzene in shallow groundwater since that time, whereas the latest concentrations of benzene ranged from 14-24 ug/L in quarterly groundwater sampling events conducted from December 2020 through June 2021. The only other VOCs historically detected in MW-26 include residual concentrations of 1,2-Dichlorethane, 1,2-Dichloropropane, and vinyl chloride, all of which have also declined in concentration and which have been consistently below all criteria over the past two years. Residual impacts in MW-26 are horizontally delineated to the north by MW-25, to the east and southeast by MW-20 and MW-19, and to the south by MW-27. The prior remediated source of shallow groundwater impacts to the east was addressed in the 2016 NFA.

Monitoring Well MW-27 in the southern portion of the North Mill Street ROW historically has had trace detections of trichloroethene (TCE) in groundwater which have steadily declined from a high of 6 ug/L in 2013 to concentrations ranging from 2 ug/L in 2019-2020 to under the 1.0 ug/L detection limit during the last two groundwater monitoring events in 2021. No other VOCs have historically been detected in the MW-27. **Figure 5C** depicts the gradual declining of residual TCE impacts in shallow groundwater over time. Given that remaining shallow groundwater impacts in Monitoring Well MW-27 do not exceed EGLE Cleanup Criteria and the monitoring well was previously used to complete delineation of residual chlorinated VOC impacts on the east adjacent Site (reference to 2016 NFA), no further delineation of TCE impacts in the monitoring well was previously or currently recommended or required.

Evaluation of remaining residual shallow groundwater impacts in monitoring wells MW-26 and MW-27 are discussed in Section 7.2 below. Of note, in addition to the PHIC filed for the North Mill Street ROW (refer to **Appendix C**), a groundwater use restriction ordinance is in effect for a portion of North Mill Street by the City of Pontiac, which restricts the use of water supply wells in this area. A copy of the groundwater ordinance, including a map of the North Mill Street restriction zone is included as **Appendix D**.

Documentation of vertical delineation of residual impacts is presented in the 2016 NFA report, specifically referencing the clay confining layer present between shallow and deeper groundwater units. Well construction logs in Appendix A for the five remaining monitoring wells identify underlying clay at depths ranging from 5 to 16.5 feet bgs, with well screens extending across the shallow groundwater table in a manner which sufficiently screens for the residual shallow groundwater impacts. Further documentation of the separation between shallow and deeper groundwater units is provided by the City of Pontiac's Paddock Standby Water Well which is located approximately 0.40 miles east of the Site. A copy of the City of Pontiac Water Well Record is included as part of **Appendix E**. As described in **Section 1.3.2**, A review of the boring log for the well shows an upper, 20 foot thick, clay layer is present from 3 to 23 feet bgs (~896-876 feet msl), and another 35-foot clay layer was observed from 38 to 73 feet bgs (~861-826 feet msl), which separates the shallow and deeper units in this area.

3.2.3 LNAPL Evaluation Summary

The definitions of NAPL as defined in Part 201 of the National Resources and Environmental Protection Act (NREPA) provided within Part 201 are presented below:

- NAPL – a non-aqueous phase liquid or a non-aqueous phase solution composed of one or more organic compounds that are immiscible or sparingly soluble in water. NAPL includes both DNAPL and LNAPL.
- LNAPL – a light non-aqueous phase liquid having a specific gravity less than one and composed of one or more organic compounds that are immiscible or sparingly soluble in water, and the term encompasses all potential occurrences of LNAPL.

- DNAPL – a dense non-aqueous phase liquid with a specific gravity greater than one and composed of one or more organic compounds that are immiscible or sparingly soluble in water. DNAPL encompasses all potential occurrences of DNAPL.
- Migrating NAPL – NAPL that is observed to spread or expand laterally or vertically or otherwise result in an increased volume of the NAPL extent, usually indicated by time series data or observation. Migrating NAPL does not include NAPL that appears in a well within the historical extent of the NAPL due to a fluctuating water table.
- Mobile NAPL – NAPL that exceeds residual saturation, and includes migrating NAPL, but not all mobile NAPL is migrating NAPL.
- Residual NAPL Saturation – the range of NAPL saturations greater than zero NAPL saturation up to the NAPL saturation at which NAPL capillary pressure equals pore entry pressure and includes the maximum NAPL saturation, below which NAPL is discontinuous and immobile under the applied gradient.

EGLE guidance references the use of the Interstate Technology and Regulatory Council's (ITRC) Technical/Regulatory Guidance "Evaluating LNAPL Remedial Technologies for Achieving Project Goals" and ASTM E 2531-06 "Standard Guide for Development of Conceptual Facility Models and Remediation Strategies for Light Non-Aqueous Phase Liquids Released to the Subsurface" (ASTM 2006). These guidance documents can be utilized as references for the evaluation and assessment of mobile, migrating and residual NAPL present in the subsurface.

Details of the prior detection, delineation and evaluation at the Site are provided in Section 3.4.4 of the Arcadis November 10, 2016, NFA Report. Of note, previously detected LNAPL at the Site was noted to be effectively delineated within the Site boundaries and remediated in the 2016 NFA Report, which resulted in EGLE's issuance of the December 6, 2016, Approval for NFA for the Site. As LNAPL has not been historically detected or determined to be present within the North Mill Street ROW Area, no further evaluation or assessment is warranted.

4 Public Highway Institutional Control

Following verbal correspondence with the City of Pontiac Department of Public Works (DPW), a Public Highway Institutional Control (PHIC) package for the North Mill Street ROW Area Site was executed and submitted via electronic mail and hardcopy to the DPW's Engineering Division on March 17, 2021. The package consisted of an explanatory cover letter, EGLE Form EQP4506 and supporting figures, tables, and attachments. Confirmation of hardcopy delivery was received, and follow-up electronic mail and telephone inquiries were made approximately 1 week following delivery and on December 6, 2021. Despite these inquiries, a fully executed acknowledgment on Form EQP4506 was not received back from the City of Pontiac.

As required and referenced on EGLE Form EQP4506, the PHIC included the following items:

- a map and legal description of the North Mill Street ROW Area;
- Description of known contaminants and contaminated media;
- Geological cross-sections of the impacted area;
- Groundwater elevation and flow data;
- Soil and groundwater analytical data maps;

- Notices to impacted parties; and
- City of Pontiac Zoning/planning information.

A copy of the PHIC package is provided in **Appendix C**.

5 City of Pontiac Groundwater Ordinance

On August 16, 2013, Ordinance Number 2311 was adopted to amend the Code of Ordinances of the City of Pontiac to amend Chapter 58, Article VIII to restrict installation of wells in certain areas of the City. The addition of Chapter 58, Article VIII entitled "Water Well Restriction" stated that the City finds "...that an aquifer in certain areas of the City has been contaminated or otherwise adversely impacted by hazardous substances..." therefore, "The City has determined that it is necessary and appropriate to prohibit and/or otherwise restrict the use of wells to supply water in and from the affected areas in order to protect City residents..." The North Mill Street Restricted Zone was included as one of the prohibited areas. This portion of North Mill Street is located adjacent to the Site running between the northwestern corner of the property south to the intersection of North Mill Street and University Drive. The North Mill Street ROW Area is within the North Mill Street Restricted Zone. At the present time, the concentration of benzene continues to exceed the RDW and NRDW in Monitoring Well MW-26 located within the North Mill Street ROW Area; no other RDW or NRDW exceedances exist. The ordinance prevents the installation of water wells and restricts the use of groundwater within North Mill Street. The Ordinance Number 2311 and figure outlining the North Mill Street Restricted Zone are included in **Appendix D**.

6 Notices

Upon discovery of impacted groundwater at the Site and determination of groundwater flow migrating west from the Site, Notices of Migration were submitted to the City of Pontiac and EGLE in 2007.

Notices to Impacted Parties of Corrective Actions (NIP) are not required under Part 201. However, to satisfy the requirements of Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended Part 213 and address the open releases C-1142-91 and C-0328-06, NIPs were submitted to City of Pontiac Department of Public Works, Consumers Energy, and Water Resources Commission in May 2016 based on the impacts observed within and/or adjacent to North Mill Street.

Copies of the Notices are included in **Appendix F**.

7 Cleanup Criteria Pathway Evaluation

Arcadis has completed an analysis of each of the exposure pathways and VOC concentrations to be considered for the protection of public health, safety, or welfare or the environment, and the relevant conditions within the North Mill Street ROW Area applicable to each. When an exposure pathway is considered relevant, media-specific, pathway-specific criteria can be used to determine whether conditions are acceptable. Data can then be evaluated by comparison to applicable Criteria to determine whether additional activities are necessary. If a property is adequately characterized and data are below pathway-specific Criteria, then NFA is warranted to address that exposure pathway.

Arcadis' analysis indicates which pathways and conditions are relevant, which Criteria are applicable, and documents the reasons for those conclusions. Arcadis considered both historical and current information and data related to the North Mill Street ROW Area to identify relevant potential exposure pathways. Based on the results of the exposure pathway assessment, applicable Criteria were identified.

7.1 Soil Exposure Pathways

Soil exposure pathways assessed for the North Mill Street ROW Area included the following:

- Drinking Water Protection,
- Groundwater Surface Water Interface Protection,
- Ambient Air,
- Soil Volatilization to Indoor Air, and
- Direct Contact.

7.1.1 Drinking Water Protection Pathway

The DWP pathway is considered potentially relevant based on the potential of soil to leach into shallow groundwater. Soil analytical results within the North Mill Street ROW Area included those obtained from boreholes associated with the five monitoring wells (MW-19, MW-20, MW-25, MW-26 and MW-27) and three previously installed soil borings (B-12, B-13 and B-35). With the exception of one soil sample, none of the unsaturated or saturated soil samples had detections of contaminants exceeding RDWP and NDWP Criteria. As listed in **Tables 1a and 1b**, and depicted in **Figure 3c** and **Figure 4**, the only soil sample which had contaminants exceeding RDWP and NDWP Criteria was a sample obtained from boring B-35 with benzene, ethylbenzene and xylene impacts in the 6.8-8.8 feet bgs range which is located within the range of fluctuation of the shallow groundwater table due to migration from the Site. As previously described, there is no record of releases or evidence of impacts occurring from the Site to unsaturated soils within the North Mill Street ROW area. Impacts to soils within the confined shallow groundwater table are delineated by borings at MW-26, MW-27 and B-13, and addressed in the PHIC.

Due to the presence of residual benzene, ethylbenzene and xylene impacts exceeding RDWP and NDWP Criteria in soils at B-35 within the range of fluctuation of the confined shallow groundwater table, the DWP Pathway is considered potentially relevant. However, as described in Section 7.2.1 below, groundwater is not used as a source of drinking water in the North Mill Street ROW Area, and the City of Pontiac has the Groundwater Ordinance to regulate the use of groundwater/restrict the installation of water wells within North Mill Street. Therefore, the DWP pathway is not applicable.

7.1.2 Groundwater Surface Water Interface Protection Pathway

The GSIP pathway would be potentially applicable where the potential for soil to leach to groundwater exists which may migrate to surface water, or also where storm sewers are located within impacted groundwater with hydraulic connection into the storm sewer, and if those storm sewers discharge to a surface water. No surface water bodies are located within the North Mill Street ROW Area; the nearest surface water body is the Clinton

River approximately 350 feet southeast of the North Mill Street ROW Area. However, a storm sewer line does exist within the North Mill Street ROW Area.

Similar to the summary above, review of soil sample analytical results from the five North Mill Street ROW Area monitoring wells and three previously installed soil borings indicate that with the exception of one sample, none of the unsaturated or saturated soil samples had detections of contaminants exceeding GSIP Criteria. As listed in **Tables 1a and 1b**, and depicted in **Figure 4**, the only soil sample which had contaminants exceeding GSIP Criteria was the sample obtained from boring B-35 with BTEX impacts in the 6.8-8.8 feet bgs range which is located within the range of fluctuation of the shallow groundwater table due to migration from the Site. As previously described, there is no record of releases or evidence of impacts occurring from the Site to unsaturated soils within the North Mill Street ROW area. Impacts to soils within the confined shallow groundwater table are delineated by borings at MW-26, MW-27 and B-13, and addressed in the PHIC.

Due to the presence of residual BTEX impacts exceeding GSIP Criteria in soils at B-35 within the range of fluctuation of the confined shallow groundwater table, the GSIP Pathway is considered potentially relevant. However, as described in Section 7.2.2 below, the results of prior storm sewer sampling activities indicated that the GSI pathway was not complete. Furthermore, the results of more recent groundwater sampling activities indicate that groundwater in the vicinity of B-35 at MW-26 no longer exceeds GSI Criteria. Therefore, it is concluded that the GSIP pathway is not applicable.

7.1.3 Ambient Air Pathway

Applicability of the Ambient Air pathway from soil is considered relevant in the event of migration of particulate or vapors from subsurface soils into the general outside environment. EGLE Ambient Air soil criteria include Infinite Source Volatile Soil Inhalation Criteria (VSIC), Finite VSIC for 5 Meter Source Thickness, Finite VSIC for 2 Meter Source Thickness, and Particulate Soil Inhalation Criteria. Soil analytical results within the North Mill Street ROW Area are compared against the most stringent of the EGLE RAAC and NAAC in **Tables 1a and 1b**, and **Figure 4**. In summary, none of the soil analytical results exceed RAAC or NAAC. Therefore, the Ambient Air pathway is neither relevant nor applicable.

7.1.4 Soil Volatilization to Indoor Air Inhalation Pathway

Applicability of the Volatilization to Indoor Air (VI) pathway from soil is considered relevant in the event of migration of vapors from subsurface soils and/or groundwater into a building. As described in Section 1.0, in order to evaluate the VI pathway for the North Mill Street ROW Area, data was compiled, prepared and submitted to EGLE on February 26, 2021, for the purpose of requesting Site-Specific Volatilization to Indoor Air Criteria (SSVIAC). Following clarification of certain details pertaining to nearby building structures, EGLE issued SSVIAC to RACER on April 6, 2021. SSVIAC and supporting documentation provided in the request is included in **Appendix G**. Soil SSVIAC are included for comparison against soil analytical results in the North Mill Street ROW Area in **Tables 1a and 1b**, and **Figure 4**.

There are currently no structures present within the North Mill Street ROW Area, and as identified in the PHIC, the City of Pontiac plans continue to identify the area as a roadway. As part of achieving NFA for the Site, a DRC was recorded which required a Site owner to perform a vapor assessment prior to any construction at a portion of the Site to assess for the potential for vapor intrusion and/or if necessary that new construction incorporates

engineering controls (vapor barrier and/or mitigation system) designed to eliminate the potential for subsurface vapors from migrating into any new structures at concentrations greater than applicable criteria.

Documentation pertaining to the nearest buildings west of the Mill Street ROW was provided in the SSVIAC request. As described in Section 3.2.1, BTEX exceedances of Residential and Nonresidential SSVIAC Criteria exist at B-35 (6.8-8.8 feet bgs), and a TCE exceedance of Residential and Nonresidential SSVIAC Criteria exists at MW-27 (6-8 feet bgs). However, soil samples at both locations were obtained from depths within the range of the fluctuating groundwater table. As previously described, there is no record of releases or evidence of impacts occurring from the Site to unsaturated soils within the North Mill Street ROW area. Given that monitoring wells were installed to monitor concentrations and delineate VOC impacts in groundwater, and Groundwater SSVIAC Criteria have been issued based on the depth to shallow groundwater, evaluation of vapor intrusion is conducted from the groundwater pathway and summarized in Section 7.2.3.

7.1.5 Direct Contact with Soil Pathway

As listed in **Tables 1a and 1b**, and depicted in **Figure 4**, no unsaturated or saturated soil concentrations from soil samples obtained within the North Mill Street ROW Area exceed DC Criteria. Furthermore, as previously described, there is no record of releases or evidence of impacts occurring from the Site to unsaturated soils within the North Mill Street ROW area. Therefore, the Direct Contact pathway is neither relevant nor applicable.

7.2 Groundwater Exposure Pathway Evaluation

7.2.1 Drinking Water Pathway

As listed in **Table 3** and depicted in **Figure 5**, the only remaining groundwater exceedance of RDW and NRDW Criteria present within the North Mill Street RWO Area is benzene at MW-26. The trend graph in **Figure 5B** shows that the benzene concentration in MW-26 continues to decline since source removal activities were performed at the east-adjacent Site in 2012. Similar to evaluation activities conducted prior to the 2016 NFA request for the Site, Arcadis used the EGLE GeoWebFace Map online search tool (<http://www.deq.state.mi.us/GeoWebFace/>) to identify the potential for historic or current water wells within one mile of the Site. One (1) well continues to be identified using the online search tool. The water well and pump record for Well ID 63000038319 identified the owner of the well to be the City of Pontiac, however it does not provide details regarding use, depth, or construction. This well is approximately 0.40 miles east of the Site. A review of the scanned logs available in the GeoWebFace program identified a log for the well which is described in Section 3.2.2. A copy of the well log is provided in **Appendix E**.

- The North Mill Street ROW Area is located in an area where the water supply is obtained from the lower Lake Huron watershed via the Lake Huron Water Treatment Plant in Port Huron. The City of Pontiac purchases the water from the North Oakland County Water Authority (NOCWA), who obtains the water from the Great Lakes Water Authority (GLWA).
- The North Mill Street ROW Area is within a designated Type 1 Provisional Wellhead Protection Area (WHPA), as identified in the GeoWebFace program and depicted in **Figure 7**. The purpose of a WHPA is to protect an area which, in this case, has the potential to contribute water to municipal water supply well and to minimize the potential for contamination of that area and therefore possible contamination reaching the municipal

drinking water supply well. A review of the boring log from the well responsible for the WHPA, shows an upper, 20 foot thick, clay layer is present from 3 to 23 feet bgs (~896-876 feet msl), and another 35 foot clay layer was observed from 38 to 73 feet bgs (~861-826 feet msl), which separates the shallow and deeper units in this area, therefore providing a barrier from low level soil exceedances previously observed at the east-adjacent Site. Additionally, the water supply well is not at risk for contamination from Site-related contamination in the North Mill Street ROW Area for the following reasons:

- o The well has historically been considered a stand-by well which remains not in use.
- o The stand-by water supply well is screened from 180 to 200 feet bgs, over 160 feet deeper than previous deeper well screens at the east-adjacent Site and 170 feet deeper than the shallow well screens in the North Mill Street ROW Area;
- o The shallow groundwater plume at the east-adjacent Site and North Mill Street ROW Area is delineated horizontally and vertically, with the above-referenced clay layers preventing vertical migration of contaminants to the depth of the stand-by water supply well screen; and
- o The majority of contamination source material at the Site was removed in 2012, and residual groundwater impacts in the North Mill Street ROW Area have continued to decline since that time.

Properties surrounding the Site receive drinking water from Oakland County and do not utilize private water wells, as also confirmed through the GeoWebFace viewer log depicted in **Figure 7**.

The City of Pontiac has groundwater use ordinance which restricts the installation of water wells within certain areas of the city; The North Mill Street Restriction zone is included in City Ordinance 2311 and includes a portion of North Mill Street, adjacent to the Site, and prohibits the installation of water wells within the North Mill Street Restriction Zone, as discussed in Section 6; unless wells are needed for/if 1) Proof of No Influence, 2) Groundwater Monitoring / Remediation, 3) Construction Dewatering, 4) Processing Activities, and 5) Public Emergencies. A copy of this ordinance can be found in **Appendix D**. Furthermore, a DRC was recorded in 2016 for the Site that restricted installation of wells and use of groundwater. Due to the remaining concentration of benzene in shallow groundwater at MW-26, as well as the City of Pontiac groundwater ordinance and the DRC prohibiting the use of groundwater, the DWP pathway is relevant, though not applicable.

7.2.2 Groundwater Surface Water Interface Pathway

No surface water bodies are located within the North Mill Street ROW Area; the Clinton River is located approximately 350 feet southeast of the Site. However, a storm sewer line does exist within the North Mill Street ROW Area. Since September 2017, **Table 3** and **Figure 5** show that groundwater exceedances of GSI Criteria no longer exist within the North Mill Street ROW Area. Prior to September 2017, the results of groundwater monitoring reflected that the concentration of benzene in shallow groundwater detected at MW-26 exceeded its GSI Criteria of 200 ug/L. Since that time, the concentration has steadily declined to where it has been consistently less than 20% of the GSI value over the past three years (refer to **Figure 5B**).

From May 2104 through April 2015 in order to address the GSI pathway and to determine if impacted soil and groundwater associated with the release at the east-adjacent Site was affecting the storm sewer lines located at the Site and in adjacent roadways including North Mill Street, Arcadis completed three rounds of storm sewer sampling during dry weather events. As summarized in the 2016 NFA Request approved by EGLE, the results of

storm sewer sampling indicated that no GSI exceedances existed. Since 2015 contaminant concentrations in groundwater have decreased significantly as discussed in the preceding paragraph.

The City of Pontiac was notified of North Mill Street impacts, and a Notification of Migration was submitted for the Site in 2007 (**Appendix F**). Based on the delineation of GSI exceedances to below applicable GSI Criteria, previous storm sewer samples testing below GSI Criteria, and previous source removal activities resulting in continued decreasing concentrations of residual contaminants in the North Mill Street ROW Area, it is concluded that the GSI pathway is neither relevant nor applicable.

7.2.3 Groundwater Volatilization to Indoor Air Inhalation Pathway

As described in Section 1 and 7.1.4, upon request EGLE issued SSVIAC for the North Mill Street ROW Area to RACER on April 6, 2021. The SSVIAC issued by EGLE and supporting documentation provided in the request is included in **Appendix G**. Groundwater SSVIAC are included for comparison against groundwater analytical results in the North Mill Street ROW Area in **Table 3** and depicted in **Figure 5**.

There are currently no structures present within the North Mill Street ROW Area, and as identified in the PHIC, the City of Pontiac plans continue to identify the area as a roadway. As part of achieving NFA for the east-adjacent Site, a DRC was recorded which required the owner to perform a vapor assessment prior to any construction on a specified portion of the Site to assess for the potential for vapor intrusion and/or if necessary that new construction incorporates engineering controls (vapor barrier and/or mitigation system) designed to eliminate the potential for subsurface vapors from migrating into any new structures at concentrations greater than applicable Criteria.

For the evaluation of potential vapor intrusion to other nearby buildings which may be potential receptors from migrating contaminants in shallow groundwater, documentation pertaining to the nearest buildings west and southwest of the Mill Street ROW Area was provided in the SSVIAC request. As listed in **Table 3** and depicted in **Figure 5**, remaining residual shallow groundwater impacts to be considered included the concentration of benzene in MW-26 and TCE in MW-27. EGLE's Guidance Document for the Vapor Intrusion Pathway (MDEQ, 2013 as Revised and Amended through 2021) was referenced in further evaluating the VI Pathway.

For benzene in Monitoring Well MW-26, as described in Section 3.2, residual impacts are horizontally delineated to the north by MW-25, to the east and southeast by MW-20 and MW-19, and to the south by MW-27. The closest nonresidential structure is Rich Sign Service, a nonresidential business occupying a structure located approximately 85 feet southwest of MW-26. The closest structure evaluated for residential use is Kids Zone Day Care located approximately 225 feet south-southwest of MW-26. For gasoline-related impacts, EGLE guidance is to consider impacts within 40 feet of the structures. The concentration of benzene in MW-26 has ranged from 14-24 ug/L over the past three groundwater monitoring events and continues to steadily decline since source removal activities were conducted at the east-adjacent Site in 2012 (refer to **Figure 5B**). The concentration of benzene in MW-26 currently remains greater than the Residential SSVIAC of 1.0 ug/L and Nonresidential SSVIAC of 8.4 ug/L. However, MW-19 is located approximately 18 feet northeast of the structure between MW-26 and the structure, and MW-19 has never had a detectable concentration of benzene above the 1.0 ug/L laboratory method detection limit or any other gasoline-related contaminants since the monitoring well was installed. Furthermore, no detectable concentration of benzene above the 1.0 ug/L laboratory method detection limit or any other gasoline-related contaminants have been historically detected in MW-27 since it was installed. Based on

these details, the VI pathway for intrusion of vapor due to gasoline impacted shallow groundwater at MW-26 within the North Mill Street ROW is determined to be relevant but not applicable.

For TCE in Monitoring Well MW-27, as described in Section 3.2, residual impacts originating from the east-adjacent Site dropped below the 1.0 ug/L laboratory method detection limit in the March and June 2021 groundwater monitoring events. Previously detected residual TCE impacts at MW-27 were horizontally delineated to the north by MW-25 and MW-26, to the northwest by MW-20, and to the west by MW-19. As of the 2016 NFA Request for the Site, no further delineation of shallow groundwater TCE impacts to the south or southwest was recommended or required based on applicable criteria and pathway evaluation methodology. MW-27 served as a southeast delineation boundary well given that the source of chlorinated VOC groundwater impacts was to the northeast on the Site, impacts were delineated in all directions, and that restrictions on groundwater use for a drinking water source existed both on the Site and off-site in the North Mill Street ROW Area. As depicted in **Figure 5c**, the closest nonresidential structure is Rich Sign service located slightly more than 40 feet east of MW-27, and the closest structure evaluated for residential use is Kids Zone Day Care located approximately 150 feet north-northeast of MW-27. For chlorinated VOC impacts, EGLE guidance is to consider impacts within 100 feet of the structures. SSVIAC criteria for TCE issued by EGLE for shallow groundwater in the North Mill Street ROW are 1.7 ug/L for Nonresidential and 0.07 ug/L for Residential.

Given 2012 source removal of upgradient soil impacts to the northeast and the concentration of TCE at MW-27 steadily declining to below laboratory detection limits the VI pathway for intrusion of vapor due to TCE impacted shallow groundwater at MW-27 within the North Mill Street ROW is determined to be relevant but not applicable.

8 Markers

Markers are not required for the North Mill Street ROW Area according to 20114c(2)(b).

9 Post Closure Plan

With the exception of the PHIC filed with the City of Pontiac (**Appendix D**), conditions in the North Mill Street ROW Area do not warrant development of additional restrictions, development of a Remedial Action Plan, execution of a Post-Closure Agreement, establishment of a Financial Assurance Mechanism, or any operations, maintenance or monitoring activities. Therefore, execution and submittal of a Post Closure Plan is not required as noted in Part 20114d3(b).

10 Conclusions

Previous investigation activities revealed that former industrial/commercial activities at the east-adjacent Site resulted in impacts to soil and groundwater at the Site, but no such activities occurred in the North Mill Street ROW Area. Delineated shallow groundwater impacts in a portion of the North Mill Street ROW Area were due to migration of limited residual fuel-related and chlorinated volatile organic compound (VOC) contaminants in groundwater from the Site. The results of shallow groundwater monitoring conducted within the North Mill Street ROW Area since remediation of the source area at the Site was completed in 2012 has shown that natural attenuation has effectively reduced residual shallow groundwater impacts to concentrations which with imposed restrictions support this request for No Further Action. Restrictions include the City of Pontiac's August 16, 2013

Ordinance No 2311 which limits groundwater use and prohibits the construction of water wells within North Mill Street, filing of the PHIC with the City of Pontiac on March 17, 2021, and recording of the DRC at the Site with the Oakland County Register of Deeds on November 2, 2016. With these restrictions in place, the analysis of potential exposure pathways outlined in Sections 7.1 and 7.2 of this report does not indicate an unacceptable risk is present to public health, safety, or welfare or the environment.

Based on the details presented in this report, Arcadis, on behalf of RACER, respectfully requests that EGLE provide approval for this NFA Request.

11 References

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Arcadis, 2014 Additional Delineation and Monitoring Activities Memo, Employee Development Center Site, 65 East University Drive, Pontiac, Michigan. February 10, 2015

Arcadis, 2015 Monitoring Update Memo, Employee Development Center Site, 65 East University Drive, Pontiac, Michigan. June 22, 2015

No Further Action Request Report - North Mill Street Right-Of-Way Area, West of Former Employee Development Center

RACER Properties LLC, Declaration of Restrictive Covenant, 65 East University Drive, Pontiac, Oakland County, Michigan; Site ID's 63006001 and 0-0015260; Tax ID's 14-29-428-002, 14-29-284-007, and 14-29-284-008; Recorded November 2, 2016.

Arcadis, 2016 No Further Action Report, Employee Development Center, 65 East University Drive, Pontiac, Michigan. November 10, 2016

Michigan Department of Environmental Quality, Notice of Approval No Further Action Report, Racer Trust – Employee Development Center, 65 East University Drive, Pontiac, Oakland County, Michigan, Facility ID No 6300600, December 6, 2016.

Michigan Department of Environmental Quality, Guidance Document for the Vapor Intrusion Pathway, May 2013, revised and amended by EGLE through 2021.

Michigan Department of Environmental, Great Lakes and Energy Part 201 Subsection 20114d

Michigan Department of Environmental, Great Lakes and Energy Part 213

Tables

Table 1a
Soil Analytical Data - Residential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface Protection	Residential Drinking Water Protection	Residential Soil Direct Contact	Residential Ambient Air (Most Stringent)	Residential SSVIAC SOG	Location ID: Date Collected: Start Depth (ft. bgs): End Depth (ft. bgs):	B-12 11/8/2006 8 10	B-13 11/6/2006 18 20	B-35 9/14/2007 0 2	DUPE-2 (B-35) 9/14/2007 0 2	B-35 9/14/2007 6.8 8.8	MW-19 11/17/2010 4 5	MW-20 11/17/2010 4.5 5.5	MW-25 1/8/2013 6 7	MW-26 1/8/2013 4 5	MW-27 1/8/2013 6 8
TPH																	
Total Petroleum Hydrocarbons	mg/kg	--	--	--	--	--		22	23	NA	NA	NA	NA	NA	NA	NA	NA
PAHS																	
Target PAHs	ug/kg	Various	Various	Various	Various	Various		NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
VOCs																	
1,1,1-Trichloroethane	ug/kg	1,800	4,000	500,000,000	3,800,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1,2,2-Tetrachloroethane	ug/kg	1,600	170	53,000	10,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1,2-Trichloroethane	ug/kg	6,600	100	180,000	17,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1-Dichloroethane	ug/kg	15,000	18,000	27,000,000	2,100,000	2.6		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1-Dichloroethene	ug/kg	2,600	140	200,000	1,100	12		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,2,3-Trimethylbenzene	ug/kg	--	---	--	---	270		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
1,2,4-Trimethylbenzene	ug/kg	570	2,100	32,000,000	21,000,000	150		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloroethane	ug/kg	7,200	100	91,000	6,200	0.82		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,2-Dichloroethene	ug/kg	--	---	--	---	--		< 5.4	< 5.6	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/kg	4,600	100	140,000	25,000	2		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,3,5-Trimethylbenzene	ug/kg	1,100	1,800	32,000,000	16,000,000	100		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	44,000	260,000	120,000,000	29,000,000	--		<22	<23	<900	<900	<800	<1000	<1000	<970	<1,100	<940
2-Hexanone	ug/kg	--	20,000	32,000,000	1,100,000	--		<11	<11	<3000	<3000	<3000	<3000	<4000	<3,000	<4,000	<3,000
2-Methylnaphthalene	ug/kg	4,200	57,000	8,100,000	1,500,000	1,700		<11	<11	<400	<400	<400	<500	<500	<430	<460	<410
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	---	--	---	--		<11	<11	<3000	<3000	<3000	<3000	<4000	<3,000	<4,000	<3,000
Acetone	ug/kg	34,000	15,000	23,000,000	130,000,000	--		<110	<110	<1000	<1000	<1000	<1000	<1000	<1,000	<1,000	<1,000
Benzene	ug/kg	4,000	100	180,000	13,000	1.7		< 5.4	< 5.6	<60	<60	960	<70	<70	<60	<70	<60
Bromodichloromethane	ug/kg	--	1,600	110,000	9,100	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Bromoform	ug/kg	--	1,600	820,000	900,000	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Bromomethane (Methyl bromide)	ug/kg	700	200	320,000	11,000	--		<11	<11	<200	<200	<200	<300	<300	<300	<300	<300
N-Butylbenzene	ug/kg	--	1,600	2,500,000	ID	--		NA	NA	<60	<60	<50	<70	<70	<60	<70	<60
2-Phenylbutane (sec-Butylbenzene)	ug/kg	--	1,600	2,500,000	ID	--		NA	NA	<60	<60	<50	<70	<70	<60	<70	<60
Carbon disulfide	ug/kg	--	16,000	7,200,000	1,300,000	--		< 5.4	< 5.6	<300	<300	<300	<300	<400	<300	<400	<300
Carbon tetrachloride	ug/kg	900	100	96,000	3,500	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chlorobenzene	ug/kg	500	2,000	4,300,000	770,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chloroethane	ug/kg	22,000	8,600	2,600,000	30,000,000	--		<11	<11	<300	<300	<300	<300	<400	<300	<400	<300
Chloroform (Trichloromethane)	ug/kg	7,000	1,600	1,200,000	45,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chloromethane (Methyl chloride)	ug/kg	--	5,200	1,600,000	40,000	--		<11	<11	<300	<300	<300	<300	<400	<300	<400	<300
Dibromochloromethane	ug/kg	--	1,600	110,000	24,000	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Ethylbenzene	ug/kg	360	1,500	22,000,000	720,000	12		< 5.4	< 5.6	<60	<60	1960	<70	<70	<60	<70	<60
Cumene (p-Isopropyltoluene)	ug/kg	--	---	--	---	--		NA	NA	<100	<100	<100	<300	<400	<300	<400	<300
N-Propylbenzene	ug/kg	--	1,600	2,500,000	ID	1,800		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
Methylene chloride	ug/kg	30,000	100	1,300,000	210,000	--		< 5.4	7.9	<100	<100	<100	<100	<100	<100	<100	<100
Methyl tert butyl ether (MTBE)	ug/kg	140,000	800	1,500,000	25,000,000	74		NA	NA	<200	<200	<200	<300	<300	<300	<300	<300
Naphthalene	ug/kg	730	35,000	160,000,000	300,000	67		NA	NA	<400	<400	<400	<500	<500	<430	<460	<410
Styrene	ug/kg	2,100	2,700	400,000	970,000	150		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Tetrachloroethene	ug/kg	1,200	100	200,000	170,000	6.2		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	<60
Toluene	ug/kg	5,400	16,000	50,000,000	2,800,000	3,700		< 5.4	< 5.6	<100	<100	6100	<100	<100	<100	<100	<100
Trichloroethene	ug/kg	4,000	100	110,000	11,000	0.33		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	90
Vinyl chloride	ug/kg	260	40	3,800	4,200	0.082		<11	<11	<60	<60	<50	<70	<70	<60	<70	<60
cis-1,2-Dichloroethene	ug/kg	12,000	1,400	2,500,000	180,000	2.1		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	<60
cis-1,3-Dichloropropene	ug/kg	--	---	--	---	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
m&p-Xylene	ug/kg	--	---	--	---	--		< 5.4	< 5.6	<100	<100	5500	<100	<100	<100	<100	<100
o-Xylene	ug/kg	--	---	--	---	--		< 5.4	< 5.6	<60	<60	2510	<70	<70	<60	<70	<60
trans-1,2-Dichloroethene	ug/kg	30,000	2,000	3,800,000	280,000	12		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
trans-1,3-Dichloropropene	ug/kg	--	---	--	---	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Xylene (total)	ug/kg	820	5,600	410,000,000	46,000,000	280		< 5.4	< 5.6	<160	<160	8010	<170	<170	<160	<170	<160
Other Target VOCs	ug/kg	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals																	
Lead	mg/kg	2,500	700	400	NLV	--		NS	NS	7	8.4	2.9	2.24	7.69	2.09	8.4	3.26

See Notes on last page.



- Notes:**
- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Soil: Residential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
 - 2) Criteria listed are from the EGLE RACER Former Employee Development Center - Off-Site City of Pontiac North Mill Street Area Site-Specific Criteria Evaluation dated April 6, 2021.
 - 3) Italic values denote exceedance and/or equal to Michigan Groundwater Surface Water Interface Protection criteria
 - 4) Yellow shaded values denote exceedance and/or equal to Residential Drinking Water Protection criteria
 - 5) Light purple shaded values denote exceedance and/or equal to Residential Direct Contact criteria
 - 6) Light blue shaded values denote exceedance and/or equal to the most stringent potentially applicable Residential Ambient Air Criteria of the following:
Infinite Source Volatile Soil Inhalation Criteria (VSIC), Finite VSIC for 5 Meter Source Thickness, Finite VSIC for 2 Meter Source Thickness, and Particulate Soil Inhalation Criteria.
 - 7) Red values denote exceedance and/or equal to Residential Site Specific Volatilization to Indoor Air Criteria - Slab on grade.
 - 8) Samples with TPH results greater than 100 mg/kg were analyzed for PAHs.

Abbreviations:

ug/kg	Micrograms per kilogram
ft.	feet
bgs	below ground surface
ID	Insufficient data to develop criterion
NA	Not analyzed/Not Available
ND	Not detected / <detection limit
NLV	Not Likely to Volatilize
NS	Not sampled
SOG	Slab on grade
SSVIAC	Site specific volatilization to indoor air criteria

Table 1b
Soil Analytical Data - Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface Protection	Nonresidential Drinking Water Protection	Nonresidential Soil Direct Contact	Nonresidential Ambient Air (Most Stringent)	Nonresidential SSVIAC <50K SOG	Location ID Date Collected Start Depth (ft. bgs) End Depth (ft. bgs)	B-12 11/8/2006 8 10	B-13 11/6/2006 18 20	B-35 9/14/2007 0 2	DUPE-2 (B-35) 9/14/2007 0 2	B-35 9/14/2007 6.8 8.8	MW-19 11/17/2010 4 5	MW-20 11/17/2010 4.5 5.5	MW-25 1/8/2013 6 7	MW-26 1/8/2013 4 5	MW-27 1/8/2013 6 8
TPH																	
Total Petroleum Hydrocarbons	mg/kg	--	--	--	--	--		22	23	NA	NA	NA	NA	NA	NA	NA	NA
PAHS																	
Target PAHs	ug/kg	Various	Various	Various	Various	Various		NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
VOCs																	
1,1,1-Trichloroethane	ug/kg	1,800	4,000	1,000,000,000	4,500,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1,2,2-Tetrachloroethane	ug/kg	1,600	700	240,000	34,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1,2-Trichloroethane	ug/kg	6,600	100	840,000	57,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1-Dichloroethane	ug/kg	15,000	50,000	87,000,000	2,500,000	74		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,1-Dichloroethene	ug/kg	2,600	140	660,000	3,700	220		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,2,3-Trimethylbenzene	ug/kg	--	--	--	---	4,800		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
1,2,4-Trimethylbenzene	ug/kg	570	2,100	100,000,000	25,000,000	2,600		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloroethane	ug/kg	7,200	100	420,000	21,000	23		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,2-Dichloroethene	ug/kg	--	--	--	---	--		< 5.4	< 5.6	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/kg	4,600	100	660,000	30,000	37		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
1,3,5-Trimethylbenzene	ug/kg	1,100	1,800	100,000,000	19,000,000	1,800		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	44,000	760,000	700,000,000	35,000,000	--		<22	<23	<900	<900	<800	<1000	<1000	<970	<1,100	<940
2-Hexanone	ug/kg	--	58,000	100,000,000	1,300,000	--		<11	<11	<3000	<3000	<3000	<3000	<4000	<3,000	<4,000	<3,000
2-Methylnaphthalene	ug/kg	4,200	170,000	26,000,000	1,800,000	30,000		<11	<11	<400	<400	<400	<500	<500	<430	<460	<410
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	---	--		<11	<11	<3000	<3000	<3000	<3000	<4000	<3,000	<4,000	<3,000
Acetone	ug/kg	34,000	42,000	73,000,000	160,000,000	--		<110	<110	<1000	<1000	<1000	<1000	<1000	<1,000	<1,000	<1,000
Benzene	ug/kg	4,000	100	840,000	45,000	47		< 5.4	< 5.6	<60	<60	960	<70	<70	<60	<70	<60
Bromodichloromethane	ug/kg	--	1,600	490,000	31,000	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Bromoform	ug/kg	--	1,600	3,800,000	3,100,000	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Bromomethane (Methyl bromide)	ug/kg	700	580	1,000,000	13,000	--		<11	<11	<200	<200	<200	<300	<300	<300	<300	<300
N-Butylbenzene	ug/kg	--	4,600	8,000,000	ID	--		NA	NA	<60	<60	<50	<70	<70	<60	<70	<60
2-Phenylbutane (sec-Butylbenzene)	ug/kg	--	4,600	8,000,000	ID	--		NA	NA	<60	<60	<50	<70	<70	<60	<70	<60
Carbon disulfide	ug/kg	--	46,000	43,000,000	1,600,000	--		< 5.4	< 5.6	<300	<300	<300	<300	<400	<300	<400	<300
Carbon tetrachloride	ug/kg	900	100	440,000	12,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chlorobenzene	ug/kg	500	2,000	14,000,000	920,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chloroethane	ug/kg	22,000	34,000	12,000,000	36,000,000	--		<11	<11	<300	<300	<300	<300	<400	<300	<400	<300
Chloroform (Trichloromethane)	ug/kg	7,000	1,600	5,500,000	150,000	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Chloromethane (Methyl chloride)	ug/kg	--	22,000	7,400,000	120,000	--		<11	<11	<300	<300	<300	<300	<400	<300	<400	<300
Dibromochloromethane	ug/kg	--	1,600	500,000	80,000	--		<5.4	<5.6	<100	<100	<100	<100	<100	<100	<100	<100
Ethylbenzene	ug/kg	360	1,500	71,000,000	2,400,000	340		< 5.4	< 5.6	<60	<60	1960	<70	<70	<60	<70	<60
Cumene (p-Isopropyltoluene)	ug/kg	--	--	--	---	--		NA	NA	<100	<100	<100	<300	<400	<300	<400	<300
N-Propylbenzene	ug/kg	--	4,600	8,000,000	ID	21,000		NA	NA	<100	<100	<100	<100	<100	<100	<100	<100
Methylene chloride	ug/kg	30,000	100	5,800,000	700,000	--		< 5.4	7.9	<100	<100	<100	<100	<100	<100	<100	<100
Methyl tert butyl ether (MTBE)	ug/kg	140,000	800	7,100,000	30,000,000	2,100		NA	NA	<200	<200	<200	<300	<300	<300	<300	<300
Naphthalene	ug/kg	730	100,000	52,000,000	350,000	1,900		NA	NA	<400	<400	<400	<500	<500	<430	<460	<410
Styrene	ug/kg	2,100	2,700	1,900,000	3,300,000	4,300		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Tetrachloroethene	ug/kg	1,200	100	930,000	210,000	74		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	<60
Toluene	ug/kg	5,400	16,000	160,000,000	3,300,000	64,000		< 5.4	< 5.6	<100	<100	6100	<100	<100	<100	<100	<100
Trichloroethene	ug/kg	4,000	100	660,000	14,000	4		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	90
Vinyl chloride	ug/kg	260	40	34,000	29,000	8.2		<11	<11	<60	<60	<50	<70	<70	<60	<70	<60
cis-1,2-Dichloroethene	ug/kg	12,000	1,400	8,000,000	210,000	37		< 5.4	< 5.6	<60	<60	<50	<70	<70	<60	<70	<60
cis-1,3-Dichloropropene	ug/kg	--	--	--	---	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
m&p-Xylene	ug/kg	--	--	--	---	--		< 5.4	< 5.6	<100	<100	5500	<100	<100	<100	<100	<100
o-Xylene	ug/kg	--	--	--	---	--		< 5.4	< 5.6	<60	<60	2510	<70	<70	<60	<70	<60
trans-1,2-Dichloroethene	ug/kg	30,000	2,000	12,000,000	330,000	210		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
trans-1,3-Dichloropropene	ug/kg	--	--	--	---	--		<5.4	<5.6	<60	<60	<50	<70	<70	<60	<70	<60
Xylene (total)	ug/kg	820	5,600	1,000,000,000	54,000,000	5,000		< 5.4	< 5.6	<160	<160	8010	<170	<170	<160	<170	<160
Other Target VOCs	ug/kg	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals																	
Lead	mg/kg	2,500	700	900	NLV	--		NS	NS	7	8.4	2.9	2.24	7.69	2.09	8.4	3.26

See Notes on last page.



Notes:

- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Soil: Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
- 2) Criteria listed are from the EGLE RACER Former Employee Development Center - Off-Site City of Pontiac North Mill Street Area Site-Specific Criteria Evaluation dated April 6, 2021.
- 3) Italic values denote exceedance and/or equal to Michigan Groundwater Surface Water Interface Protection criteria
- 4) Orange shaded bold values denote exceedance and/or equal to Nonresidential Drinking Water Protection criteria
- 5) Purple shaded bold values denote exceedance and/or equal to Nonresidential Direct Contact criteria
- 6) Blue shaded bold values denote exceedance and/or equal to the most stringent potentially applicable Nonresidential Ambient Air Criteria of the following:
Infinite Source Volatile Soil Inhalation Criteria (VSIC), Finite VSIC for 5 Meter Source Thickness, Finite VSIC for 2 Meter Source Thickness, and Particulate Soil Inhalation Criteria.
- 7) Red bold values denote exceedance and/or equal to Nonresidential Site Specific Volatilization to Indoor Air Criteria in areas <50,000 ft2 of continuously open space with a slab on grade foundation.
- 8) Samples with TPH results greater than 100 mg/kg were analyzed for PAHs.

Abbreviations:

ug/kg	Micrograms per kilogram
ft.	feet
bgs	below ground surface
ID	Insufficient data to develop criterion
NA	Not analyzed/Not Available
ND	Not detected / <detection limit
NLV	Not Likely to Volatilize
NS	Not sampled
SOG	Slab on grade
SSVIAC	Site specific volatilization to indoor air criteria

Table 2
Groundwater Elevation Summary
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI

Well ID	Ground Elevations ¹	Well Elevations ²	Date	Depth to Water (ft) ³	Groundwater Elevation
MW-19 (3-13')	917.77	917.38	12/2/2010	4.21	913.17
	917.77	917.38	1/28/2013	5.63	911.75
	917.77	917.38	6/24/2013	4.87	912.51
	917.77	917.38	9/17/2013	6.02	911.36
	917.77	917.38	5/21/2014	4.29	913.09
	917.77	917.38	10/27/2014	5.67	911.71
	917.77	917.38	4/15/2015	5.98	911.40
	917.77	917.38	3/29/2017	5.45	911.93
	917.77	917.38	9/27/2017	6.85	910.53
	917.77	917.38	4/10/2018	5.83	911.55
	917.77	917.38	10/16/2018	6.27	911.11
	917.77	917.38	4/9/2019	5.79	911.59
	917.77	917.38	7/12/2019	6.20	911.18
	917.77	917.38	10/4/2019	5.01	912.37
	917.77	917.38	12/8/2020	6.98	910.40
	917.77	917.38	3/8/2021	6.12	911.26
	917.77	917.38	6/8/2021	6.21	911.17
MW-20 (3-13')	917.92	917.44	12/2/2010	7.15	910.29
	917.92	917.44	1/28/2013	7.05	910.39
	917.92	917.44	6/24/2013	6.67	910.77
	917.92	917.44	9/17/2013	7.51	909.93
	917.92	917.44	5/21/2014	6.24	911.20
	917.92	917.44	10/27/2014	6.72	910.72
	917.92	917.44	4/15/2015	6.87	910.57
	917.92	917.44	3/29/2017	6.11	911.33
	917.92	917.44	9/27/2017	8.71	908.73
	917.92	917.44	4/10/2018	7.29	910.15
	917.92	917.44	10/16/2018	7.54	909.90
	917.92	917.44	4/9/2019	6.78	910.66
	917.92	917.44	7/12/2019	7.26	910.18
	917.92	917.44	10/4/2019	6.80	910.64
	917.92	917.44	12/8/2020	8.77	908.67
	917.92	917.44	3/8/2021	7.98	909.46
	917.92	917.44	6/8/2021	8.59	908.85

See Notes on last page.

Table 2
Groundwater Elevation Summary
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI

Well ID	Ground Elevations ¹	Well Elevations ²	Date	Depth to Water (ft) ³	Groundwater Elevation
MW-25 (4-14')	917.92	915.68	1/28/2013	5.25	910.43
	917.92	915.68	6/24/2013	4.71	910.97
	917.92	915.68	9/17/2013	5.91	909.77
	917.92	915.68	5/21/2014	4.11	911.57
	917.92	915.68	10/27/2014	4.91	910.77
	917.92	915.68	4/15/2015	5.30	910.38
	917.92	915.68	3/29/2017	4.12	911.56
	917.92	915.68	9/27/2017	6.72	908.96
	917.92	915.68	4/10/2018	5.36	910.32
	917.92	915.68	10/16/2018	5.88	909.80
	917.92	915.68	4/9/2019	4.88	910.80
	917.92	915.68	7/12/2019	5.20	910.48
	917.92	915.68	10/4/2019	4.95	910.73
	917.92	915.68	12/8/2020	7.39	908.29
	917.92	915.68	3/8/2021	6.98	908.70
	917.92	915.68	6/8/2021	7.44	908.24
MW-26 (3-13')	917.92	916.67	1/28/2013	3.49	913.18
	917.92	916.67	6/24/2013	3.43	913.24
	917.92	916.67	9/17/2013	3.64	913.03
	917.92	916.67	5/21/2014	3.40	913.27
	917.92	916.67	10/27/2014	3.19	913.48
	917.92	916.67	4/15/2015	4.46	912.21
	917.92	916.67	3/29/2017	2.48	914.19
	917.92	916.67	9/27/2017	4.42	912.25
	917.92	916.67	4/10/2018	4.36	912.31
	917.92	916.67	10/16/2018	4.59	912.08
	917.92	916.67	4/9/2019	4.25	912.42
	917.92	916.67	7/12/2019	4.11	912.56
	917.92	916.67	10/4/2019	3.82	912.85
	917.92	916.67	12/8/2020	4.99	911.68
	917.92	916.67	3/8/2021	4.04	912.63
	917.92	916.67	6/8/2021	4.76	911.91

See Notes on last page.

Table 2
Groundwater Elevation Summary
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI

Well ID	Ground Elevations ¹	Well Elevations ²	Date	Depth to Water (ft) ³	Groundwater Elevation
MW-27 (6.5-16.5')	917.92	916.75	1/28/2013	8.11	908.64
	917.92	916.75	6/24/2013	6.83	909.92
	917.92	916.75	9/17/2013	6.67	910.08
	917.92	916.75	5/21/2014	6.79	909.96
	917.92	916.75	10/27/2014	8.00	908.75
	917.92	916.75	4/15/2015	8.47	908.28
	917.92	916.75	3/29/2017	7.24	909.51
	917.92	916.75	9/27/2017	9.06	907.69
	917.92	916.75	4/10/2018	9.01	907.74
	917.92	916.75	10/16/2018	8.53	908.22
	917.92	916.75	4/9/2019	8.59	908.16
	917.92	916.75	7/12/2019	8.64	908.11
	917.92	916.75	10/4/2019	8.24	908.51
	917.92	916.75	12/8/2020	8.50	908.25
	917.92	916.75	3/8/2021	8.66	908.09
	917.92	916.75	6/8/2021	9.04	907.71

Abbreviation:

ft Feet

Footnotes:

¹ Elevations and coordinates were determined during surveys completed on December 11, 2006, February 12, 2006, November 1, 2010, January 30, 2013 and October 24, 2014.

² Top of Temporary Well Casing/Stickup Elevation is in feet National Vertical Geodetic Datum (NAVD88).

³ Depth to water measurements collected from top of well casing.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-19 Off-site - Property West of Mill St. Right Of-Way 12/2/2010 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 1/30/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 6/27/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 9/19/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 5/23/2014 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 3/29/2017 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 9/27/2017 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 4/10/2018 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 10/16/2018 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 4/9/2019 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 7/12/2019 3-13'
Semivolatile Hydrocarbons																		
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHS																		
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5	<5	<5	<5	<5	<5**	<5**	<5**	<5**	<5**	<5**
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
Acenaphthylene	ug/L	--	52	150	65	710		<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
Anthracene	ug/L	--	43	43	43	43		<1	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Chrysene	ug/L	--	1.6	1.6	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/L	1.6	210	210	--	--		<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA
Fluorene	ug/L	12	880	2,000	1,700	1,700		<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA
Naphthalene	ug/L	11	520	1,500	4.2	12		<5	<5	<5	<5	<5	<5**	<5**	<5**	<5**	<5**	<5**
Phenanthrene	ug/L	2	52	150	9.5	15		<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA
Pyrene	ug/L	--	140	140	140	140		<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
VOCs																		
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<30	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-19 Off-site - Property West of Mill St. Right Of-Way 12/2/2010 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 1/30/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 6/27/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 9/19/2013 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 5/23/2014 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 3/29/2017 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 9/27/2017 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 4/10/2018 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 10/16/2018 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 4/9/2019 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 7/12/2019 3-13'
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																		
Lead	mg/L	0.014	0.004	0.004	--	--		<0.003	<0.003	<0.003	<0.003	<0.003	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-19 Off-site - Property West of Mill St. Right Of-Way 10/4/2019 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 12/8/2020 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 3/8/2021 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 6/8/2021 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 12/2/2010 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 1/30/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 6/27/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 9/20/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 5/22/2014 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 10/27/2014 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 4/15/2015 3-13'
Semivolatile Hydrocarbons																		
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHS																		
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	<5	<5	<5	<5	NA	NA
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5**	<5**	<5**	<5**	<5	<5	<5	<5	<5	<5**	<5**
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA
Naphthalene	ug/L	11	520	1,500	4.2	12		<5**	<5**	<5**	<5**	<5	<5	<5	<5	<5	<5**	<5**
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA
VOCs																		
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<30	<25	<25	<25	<25	<25	<25
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-19 Off-site - Property West of Mill St. Right Of-Way 10/4/2019 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 12/8/2020 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 3/8/2021 3-13'	MW-19 Off-site - Property West of Mill St. Right Of-Way 6/8/2021 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 12/2/2010 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 1/30/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 6/27/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 9/20/2013 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 5/22/2014 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 10/27/2014 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 4/15/2015 3-13'
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																		
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	<0.003	<0.003	<0.003	<0.003	<0.003	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20						
								Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -	Off-site -
								Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way	Property West of Mill St. Right Of-Way
								3/29/2017 3-13'	9/27/2017 3-13'	4/10/2018 3-13'	10/16/2018 3-13'	4/9/2019 3-13'	7/12/2019 3-13'	10/4/2019 3-13'	12/8/2020 3-13'	12/8/2020 (Duplicate) 3-13'	3/8/2021 3-13'	6/8/2021 3-13'						
Semivolatile Hydrocarbons																								
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
PAHS																								
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**						
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Naphthalene	ug/L	11	520	1,500	4.2	12		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**						
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
VOCs																								
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25						
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50						
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50						
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50						
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1						
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5						

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-20 Off-site - Property West of Mill St. Right Of-Way 3/29/2017 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 9/27/2017 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 4/10/2018 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 10/16/2018 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 4/9/2019 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 7/12/2019 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 10/4/2019 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 12/8/2020 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 12/8/2020 (Duplicate) 12/8/2020 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 3/8/2021 3-13'	MW-20 Off-site - Property West of Mill St. Right Of-Way 6/8/2021 3-13'
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																		
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-25 Off-site - Mill St. Right-of- Way (North) 1/30/2013 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 6/24/2013 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 9/19/2013 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 5/22/2014 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 10/28/2014 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 4/15/2015 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 3/29/2017 4-14'	MW-25 Off-site - Mill St. Right-of-Way (North) 9/27/2017 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 4/10/2018 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 10/16/2018 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 4/9/2019 4-14'	MW-25 Off-site - Mill St. Right-of- Way (North) 7/12/2019 4-14'	
Semivolatile Hydrocarbons																				
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PAHS																				
1-Methylnaphthalene	ug/L	--	--	--	--	--		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5	<5	<5	<5	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
Acenaphthylene	ug/L	--	52	150	65	710		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
Anthracene	ug/L	--	43	43	43	43		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Chrysene	ug/L	--	1.6	1.6	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	
Fluoranthene	ug/L	1.6	210	210	--	--		<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	
Fluorene	ug/L	12	880	2,000	1,700	1,700		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	
Naphthalene	ug/L	11	520	1,500	4.2	12		<5	<5	<5	<5	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	
Phenanthrene	ug/L	2	52	150	9.5	15		<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	
Pyrene	ug/L	--	140	140	140	140		<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	
VOCs																				
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		ND	ND	ND	ND	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		ND	ND	ND	ND	<5	<5	<5	<5	<5	<5	<5	<5	
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	MW-25	
								Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)	Off-site - Mill St. Right-of-Way (North)
								1/30/2013 4-14'	6/24/2013 4-14'	9/19/2013 4-14'	5/22/2014 4-14'	10/28/2014 4-14'	4/15/2015 4-14'	3/29/2017 4-14'	9/27/2017 4-14'	4/10/2018 4-14'	10/16/2018 4-14'	4/9/2019 4-14'	7/12/2019 4-14'	
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dissolved Metals																				
Lead	mg/L	0.014	0.004	0.004	--	--		<0.003	<0.003	<0.003	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-25 Off-site - Mill St. Right-of-Way (North) 10/4/2019 4-14'	MW-25 Off-site - Mill St. Right-of-Way (North) 12/8/2020 4-14'	MW-25 Off-site - Mill St. Right-of-Way (North) 3/8/2021 4-14'	MW-25 Off-site - Mill St. Right-of-Way (North) 6/8/2021 4-14'	MW-26 Off-site - Mill St. Right-of-Way (Central) 1/30/2013 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 6/24/2013 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 9/19/2013 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 5/23/2014 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 5/23/2014 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 10/27/2014 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 10/27/2014 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 4/15/2015 3-13'
Semivolatile Hydrocarbons																			
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHS																			
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5**	<5**	<5**	<5**	<5	<5	<5	<5	<5	<300**	<300**	<300**
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA	NA
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	<1	<1	<1	<1	<1	NA	NA	NA
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA	NA
Naphthalene	ug/L	11	520	1,500	4.2	12		<5**	<5**	<5**	<5**	<5	<5	<5	<5	<5	<300**	<300**	<300**
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	<2	<2	<2	<2	<2	NA	NA	NA
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	<5	<5	<5	<5	<5	NA	NA	NA
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA
VOCs																			
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<1,300	<1,300	<250	<1,300	<1,300	<1,300	<1,300	<1,300
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<2,500	<2,500	<500	<2,500	<2,500	<2,500	<2,500	<2,500
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<2,500	<2,500	<500	<2,500	<2,500	<2,500	<2,500	<2,500
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<2,500	<2,500	<500	<2,500	<2,500	<2,500	<2,500	<2,500
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	3360	3020	2600	2450	2530	2870	3200	1920
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		<1	<1	<1	<1	ND	ND	ND	ND	ND	<50	<50	<50
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		<5	<5	<5	<5	ND	ND	ND	ND	ND	<300	<300	<300
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<300	<300	<500	<300	<300	<300	<300	<300

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-25 Off-site - Mill St. Right-of- Way (North)	MW-25 Off-site - Mill St. Right-of- Way (North)	MW-25 Off-site - Mill St. Right-of- Way (North)	MW-25 Off-site - Mill St. Right-of- Way (North)	MW-26 Off-site - Mill St. Right-of- Way (Central)	MW-26 Off-site - Mill St. Right-of- Way (Central)	MW-26 Off-site - Mill St. Right-of- Way (Central)	MW-26 Off-site - Mill St. Right-of- Way (Central)	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate)	MW-26 Off-site - Mill St. Right-of- Way (Central)	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate)	MW-26 Off-site - Mill St. Right-of- Way (Central)
								10/4/2019 4-14'	12/8/2020 4-14'	3/8/2021 4-14'	6/8/2021 4-14'	1/30/2013 3-13'	6/24/2013 3-13'	9/19/2013 3-13'	5/23/2014 3-13'	5/23/2014 3-13'	10/27/2014 3-13'	10/27/2014 3-13'	4/15/2015 3-13'
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<50	50	<100	<50	<50	<50	<50	<50
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<100	<100	<100	<100	<100	<100	<100	<100
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<50	<50	<300	<50	<50	<50	<50	<50
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<150	<150	<400	<150	<150	<150	<150	<150
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<50	<50	<100	<50	<50	<50	<50	<50
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																			
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	<0.003	<0.003	<0.003	<0.003	<0.003	NA	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 4/15/2015 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 3/29/2017 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 3/29/2017 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 9/27/2017 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 9/27/2017 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 4/10/2018 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 4/10/2018 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 10/16/2018 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 10/16/2018 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 4/9/2019 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) (Duplicate) 4/9/2019 3-13'	MW-26 Off-site - Mill St. Right-of-Way (Central) 7/12/2019 3-13'	
Semivolatile Hydrocarbons																				
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PAHS																				
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methylnaphthalene	ug/L	19	260	750	66	110		<300**	<30**	<30**	<30**	<30**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Naphthalene	ug/L	11	520	1,500	4.2	12		<300**	<30**	<30**	<30**	<30**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VOCs																				
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<50	<5	<5	<5	<5	<1	<1	6	5	2	2	3	
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<50	<5	<5	<5	<5	<1	<1	1	1	<1	<1	<1	
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<1,300	<130	<130	<130	<130	<25	<25	<25	<25	<25	<25	<25	
2-Hexanone	ug/L	--	1,000	2,900	--	--		<2,500	<250	<250	<250	<250	<50	<50	<50	<50	<50	<50	<50	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<2,500	<250	<250	<250	<250	<50	<50	<50	<50	<50	<50	<50	
Acetone	ug/L	1700	730	2,100	--	--		<2,500	<250	<250	<250	<250	<50	<50	<50	<50	<50	<50	<50	
Benzene	ug/L	200	5.0	5.0	1.0	8.4		1490	517	512	197	191	128	129	70	68	34	39	53	
Bromodichloromethane	ug/L	--	80	80	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	--	80	80	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
N-Butylbenzene	ug/L	--	80	230	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	--	800	2,300	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	25	100	100	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	1100	430	1,700	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Dibromochloromethane	ug/L	--	80	80	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Ethylbenzene	ug/L	18	74	74	2.8	28		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<300	<30	<30	<30	<30	<5	<5	<5	<5	<5	<5	<5	

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 4/15/2015 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 3/29/2017 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 3/29/2017 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 9/27/2017 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 9/27/2017 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 4/10/2018 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 4/10/2018 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 10/16/2018 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 10/16/2018 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 4/9/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 4/9/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 7/12/2019 3-13'
N-Propylbenzene	ug/L	--	80	230	43	970		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<50	8	8	<5	<5	2	2	<1	<1	<1	1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<100	<10	<10	<10	<10	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<150	<15	<15	<15	<15	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<50	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																			
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 7/12/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 10/4/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 10/4/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 12/8/2020 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 3/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 3/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 6/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 6/8/2021 3-13'	MW-27 Off-site - Mill St. Right-of- Way (South) 1/30/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 6/24/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 9/19/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 5/23/2014 6.5-16.5'	
Semivolatile Hydrocarbons																				
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PAHS																				
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5	<5	<5	<5	
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	
Naphthalene	ug/L	11	520	1,500	4.2	12		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5	<5	<5	<5	
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	
VOCs																				
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		3	4	4	3	<1	<1	3	3	<1	<1	<1	<1	
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Benzene	ug/L	200	5.0	5.0	1.0	8.4		53	35	35	16	14	15	24	20	<1	<1	<1	<1	
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	ND	ND	ND	ND	
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		<5	<5	<5	<5	<5	<5	<5	<5	ND	ND	ND	ND	
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 7/12/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 10/4/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 10/4/2019 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 12/8/2020 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 3/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 3/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) 6/8/2021 3-13'	MW-26 Off-site - Mill St. Right-of- Way (Central) (Duplicate) 6/8/2021 3-13'	MW-27 Off-site - Mill St. Right-of- Way (South) 1/30/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 6/24/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 9/19/2013 6.5-16.5'	MW-27 Off-site - Mill St. Right-of- Way (South) 5/23/2014 6.5-16.5'
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	4	6	4
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		< 1	<1	<1	<1	1	1	1	1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																			
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	NA	NA	NA	NA	<0.003	0.003	<0.003	<0.003

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27					
								Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)
								10/27/2014 6.5-16.5'	4/15/2015 6.5-16.5'	3/29/2017 6.5-16.5'	9/27/2017 6.5-16.5'	4/10/2018 6.5-16.5'	10/16/2018 6.5-16.5'	4/9/2019 6.5-16.5'	7/12/2019 6.5-16.5'	10/4/2019 6.5-16.5'	12/8/2020 6.5-16.5'	3/8/2021 6.5-16.5'	6/8/2021 6.5-16.5'					
Semivolatile Hydrocarbons																								
Gasoline Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Diesel Range Organics	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Fuel Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Hydraulic Fluid	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Kerosene	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Mineral Spirits	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Motor Oil	mg/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
PAHS																								
1-Methylnaphthalene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
2-Methylnaphthalene	ug/L	19	260	750	66	110		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**					
Acenaphthene	ug/L	38	1,300	3,800	3,900	3,900		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Acenaphthylene	ug/L	--	52	150	65	710		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Anthracene	ug/L	--	43	43	43	43		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Benzo(a)anthracene	ug/L	--	2.1	8.5	9.4	9.4		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Benzo(a)pyrene	ug/L	--	5.0	5.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Benzo(b)fluoranthene	ug/L	--	1.5	1.5	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Benzo(g,h,i)perylene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Benzo(k)fluoranthene	ug/L	--	1.0	1.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Chrysene	ug/L	--	1.6	1.6	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Dibenz(a,h)anthracene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Fluoranthene	ug/L	1.6	210	210	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Fluorene	ug/L	12	880	2,000	1,700	1,700		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0	2.0	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Naphthalene	ug/L	11	520	1,500	4.2	12		<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**	<5**					
Phenanthrene	ug/L	2	52	150	9.5	15		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Pyrene	ug/L	--	140	140	140	140		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Other Target PAHs	ug/L	Various	Various	Various	Various	Various		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
VOCs																								
1,1,1-Trichloroethane	ug/L	89	200	200	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,1,2,2-Tetrachloroethane	ug/L	78	8.5	35.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,1,2-Trichloroethane	ug/L	330	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,1-Dichloroethane	ug/L	740	880	2,500	4.7	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,1-Dichloroethene	ug/L	130	7.0	7.0	18	250		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,2,3-Trimethylbenzene	ug/L	--	--	--	43	150		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,2,4-Trimethylbenzene	ug/L	17	63	63	25	120		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,2-Dichloroethane	ug/L	360	5.0	5.0	1.4	5.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,2-Dichloroethene	ug/L	--	--	--	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
1,2-Dichloropropane	ug/L	230	5.0	5.0	2.6	8.9		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
1,3,5-Trimethylbenzene	ug/L	45	72	72	18	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	13,000	38,000	--	--		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25					
2-Hexanone	ug/L	--	1,000	2,900	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50					
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	1,800	5,200	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50					
Acetone	ug/L	1700	730	2,100	--	--		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50					
Benzene	ug/L	200	5.0	5.0	1.0	8.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Bromodichloromethane	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Bromoform	ug/L	--	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Bromomethane (Methyl bromide)	ug/L	5	10	29	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
N-Butylbenzene	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
2-Phenylbutane (sec-Butylbenzene)	ug/L	--	80	230	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Carbon disulfide	ug/L	--	800	2,300	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Carbon tetrachloride	ug/L	38	5.0	5.0	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Chlorobenzene	ug/L	25	100	100	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Chloroethane	ug/L	1100	430	1,700	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Chloroform (Trichloromethane)	ug/L	350	80	80	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Chloromethane (Methyl chloride)	ug/L	--	260	1,100	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Dibromochloromethane	ug/L	--	80	80	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Ethylbenzene	ug/L	18	74	74	2.8	28		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Isopropyl benzene	ug/L	28	800	2,300	0.6	6.7		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Methylene chloride	ug/L	1500	5.0	5.0	--	--		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					
Methyl tert butyl ether (MTBE)	ug/L	7100	40	40	250	810		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



Chemical Name	Units	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG	Location ID: Date Collected: Screened Interval:	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27
								Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)	Off-site - Mill St. Right-of- Way (South)
								10/27/2014 6.5-16.5'	4/15/2015 6.5-16.5'	3/29/2017 6.5-16.5'	9/27/2017 6.5-16.5'	4/10/2018 6.5-16.5'	10/16/2018 6.5-16.5'	4/9/2019 6.5-16.5'	7/12/2019 6.5-16.5'	10/4/2019 6.5-16.5'	12/8/2020 6.5-16.5'	3/8/2021 6.5-16.5'	6/8/2021 6.5-16.5'	
N-Propylbenzene	ug/L	--	80	230	43	970		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/L	80	100	100	33	170		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	60	5.0	5.0	1.5	35		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	790	790	300	6,600		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	200	5.0	5.0	0.07	1.6		5	3	2	3	2	3	1	2	2	2	2	2	2
Vinyl chloride	ug/L	13	2.0	2.0	0.12	10		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	70	70	3.4	14		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	ug/L	--	--	--	--	--		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	ug/L	49	280	280	75	410		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
trans-1,2-Dichloroethene	ug/L	1500	100	100	16	110		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Other Target VOCs	ug/L	Various	Various	Various	Various	Various		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals																				
Lead	mg/L	0.014	0.004	0.004	--	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on last page.

Table 3
Groundwater Analytical Data - Residential and Nonresidential EGLE Criteria
RACER Trust
North Mill Street ROW Area
West of Employee Development Center
65 East University Drive, Pontiac, MI



- Notes:**
- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
 - 2) Criteria listed are from the EGLE RACER Former Employee Development Center - Off-Site City of Pontiac North Mill Street Area Site-Specific Criteria Evaluation dated April 6, 2021.
 - 3) Italic value denotes exceedance and/or equal to Michigan Groundwater Surface Water criteria
 - 4) Yellow shaded value denotes exceedance and/or equal to Residential Drinking Water criteria
 - 5) Orange shaded value denotes exceedance and/or equal to Nonresidential Drinking Water criteria
 - 6) Red value denotes exceedance and/or equal to Residential Site Specific Volatilization to Indoor Air Criteria - Slab on grade.
 - 7) Red bold value denotes exceedance and/or equal to Nonresidential Site Specific Volatilization to Indoor Air Criteria in areas <50,000 ft2 of continuously open space with a slab on grade foundation.
 - 8) Samples with TPH results greater than 100 mg/kg were analyzed for PAHs.

Footnote:
** Analyzed via USEPA Method 8260B

Abbreviations:

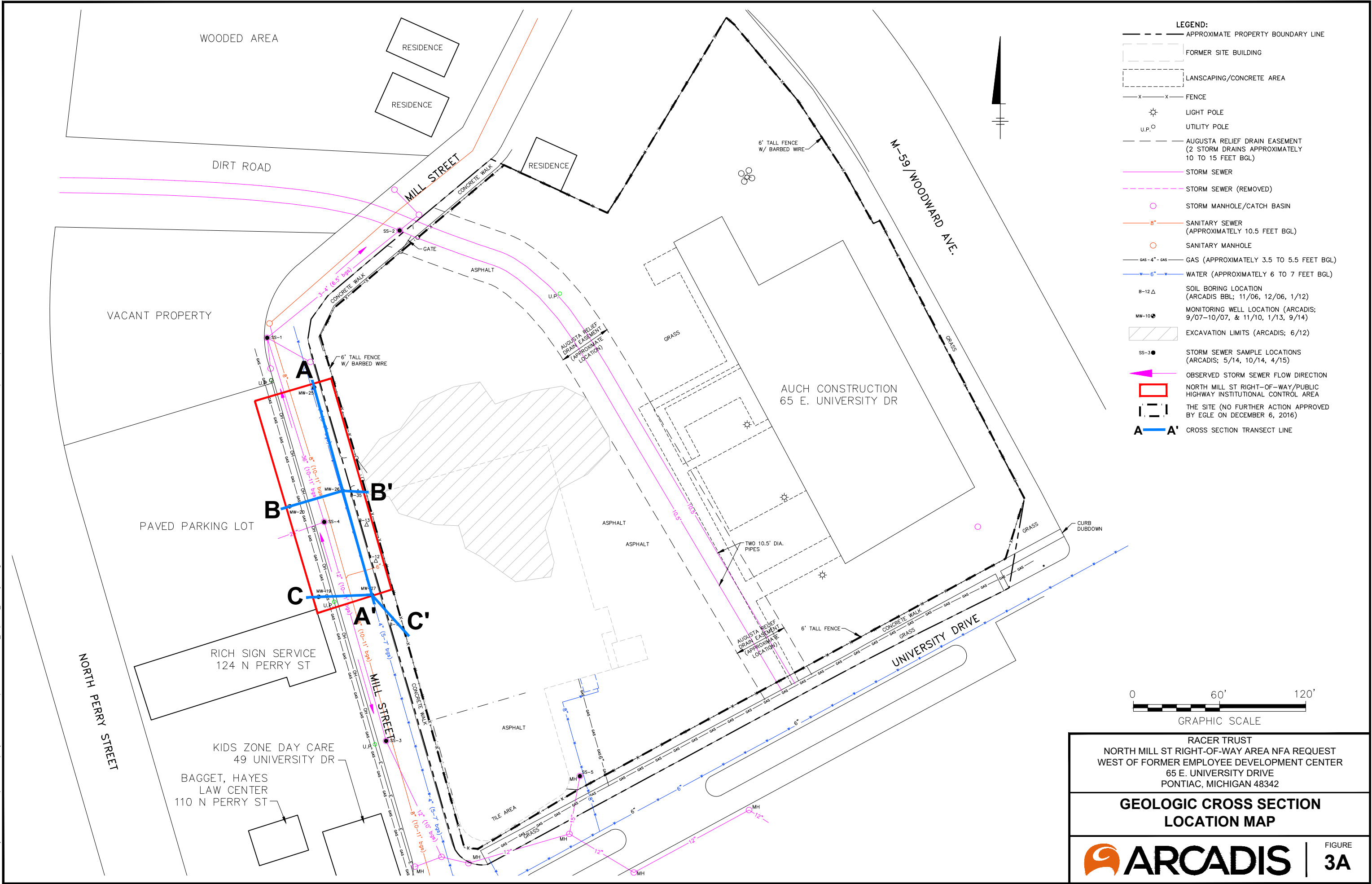
mg/L	Milligrams per liter
ug/L	Micrograms per liter
NA	Not analyzed/Not Available
ND	Not detected / <detection limit
NS	Not sampled
SOG	Slab on grade
SSVIAC	Site specific volatilization to indoor air criteria

Figures

0 60' 120'

GRAPHIC SCALE

CITY:BRIGHTON DIV:GROUP45 DBADF LD:Opt PIC:Opt PM:Regd TM:Opt LVR:Option="OFF=REF" D:\GIS\Project Files\Motors\LiquidationCompany\PontiacNorthCampusDocuments\EDC_Report02_SiteLayout.dwg LAYOUT: 3A SAVED: 12/27/2021 5:18 PM ACADVER: 24.1S (LMS TECH) PAGES: 3A PLOTTED: 12/27/2021 5:18 PM BY: YARBROUGH, TOBI



NORTH **SOUTH**

A **A'**

LEGEND

Concrete

Sand

Silty Sand

Clay

Silty Clay

NOTES:

1. Groundwater elevations include data collected between 2013 and 2020.

2. Ground surface elevations are estimated based on monitoring well ground surface elevations.

3. All elevations are referenced to a mean sea level site datum and are in units of feet above mean sea level (AMSL).

4. Underground utility size and depth are approximate.

5. VOC parameters were analyzed via USEPA method 8260B, are measured in ug/kg and are compared to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Soil: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020, and the EGLE RACER Former Employee Development Center - Off-site City of Pontiac North Mill Street Area Site Specific Criteria Evaluation dated April 6, 2021.

Soil sample does not exceed most restrictive criteria

Soil sample exceeds Residential SSVIAC SOG and Nonresidential SSVIAC <50K SOG Criteria. Soil sample was obtained in the saturated zone.

Soil Boring

Sample Interval

PID Measurement (ppm)

Soil Boring Lithology

Measured Water Level (High and Low)

Screened Interval

Underground Piping

Approximate Geologic Contact

Approximate Extent of Groundwater Impacts

Approximate Depth Explored

USEPA

ug/kg

ppm

SOG

SSVIAC

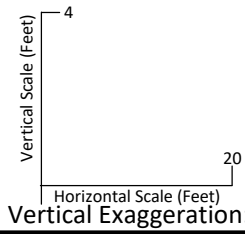
United States Environmental Protection Agency

Micrograms per kilogram

Parts per million

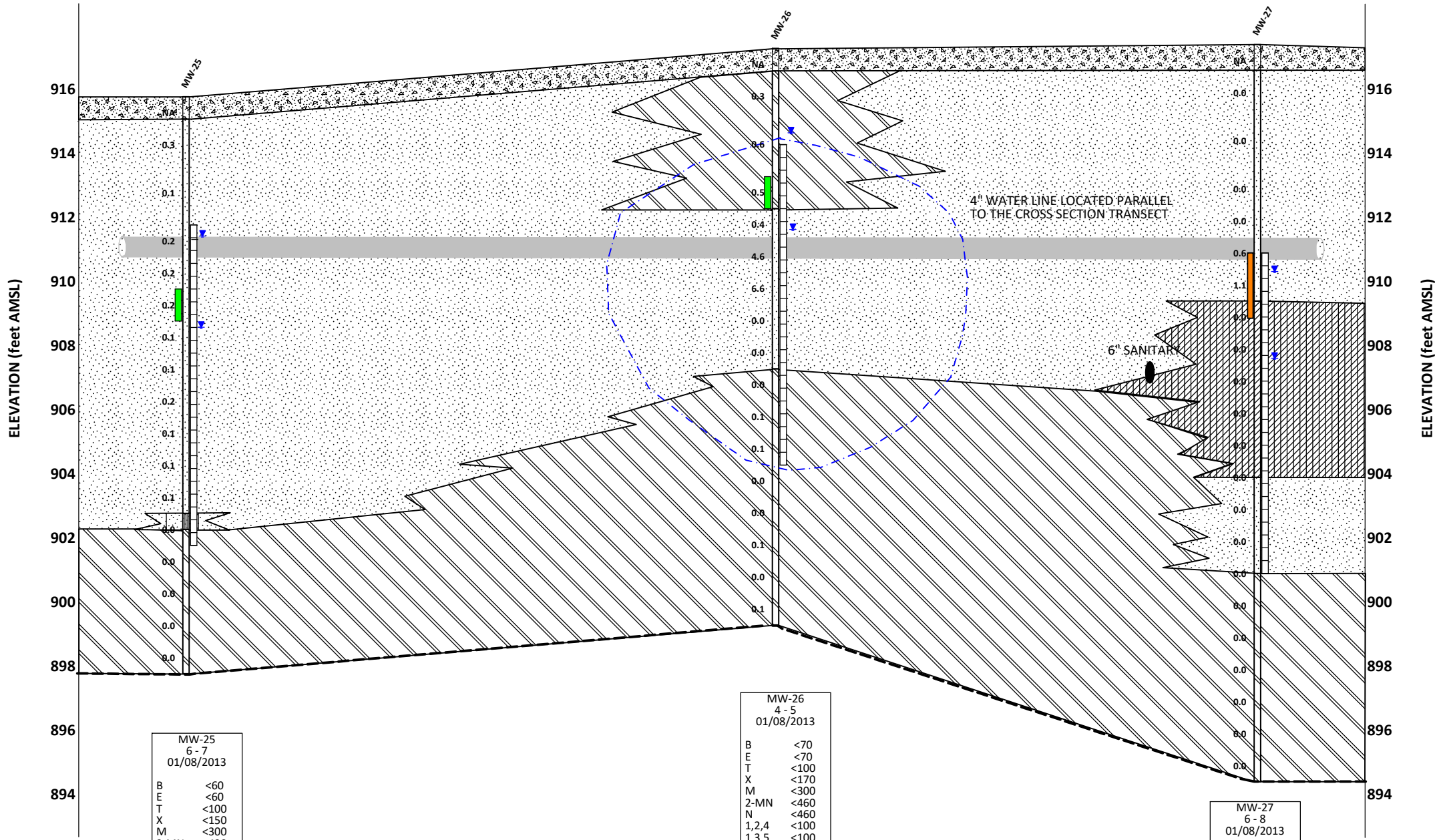
Slab on grade

Site Specific Volatilization to Indoor Air Criteria



RACER Trust
North Mill St Right-of-Way Area NFA Request
West of Former Employee Development Center
65 E. University Drive, Pontiac, Michigan

GEOLOGICAL CROSS SECTION A-A'
(NORTH - SOUTH)



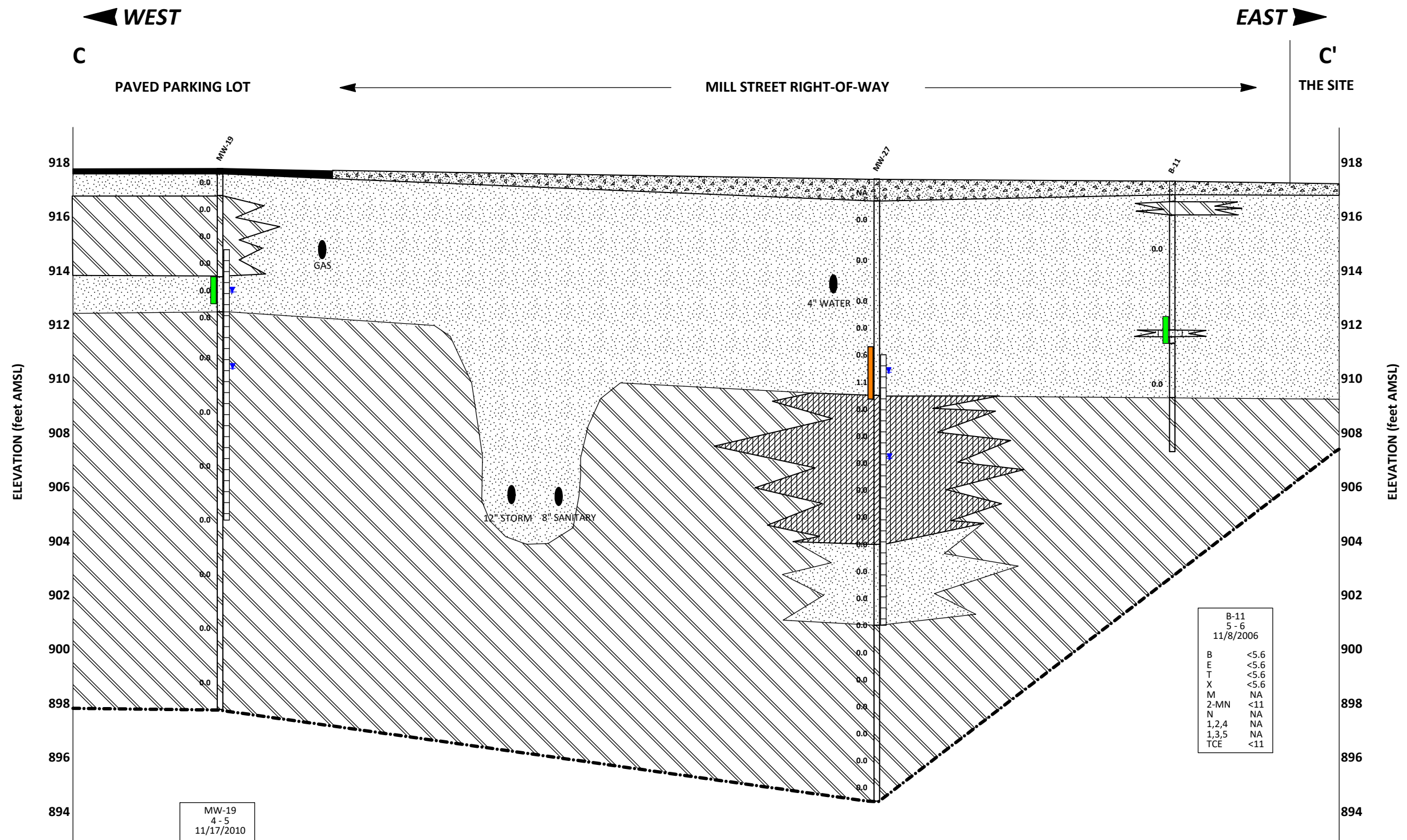
MW-25	
6 - 7	
01/08/2013	
B	<60
E	<60
T	<100
X	<150
M	<300
2-MN	<430
N	<430
1,2,4	<100
1,3,5	<100
TCE	<60

MW-26	
4 - 5	
01/08/2013	
B	<70
E	<70
T	<100
X	<170
M	<300
2-MN	<460
N	<460
1,2,4	<100
1,3,5	<100
TCE	<70

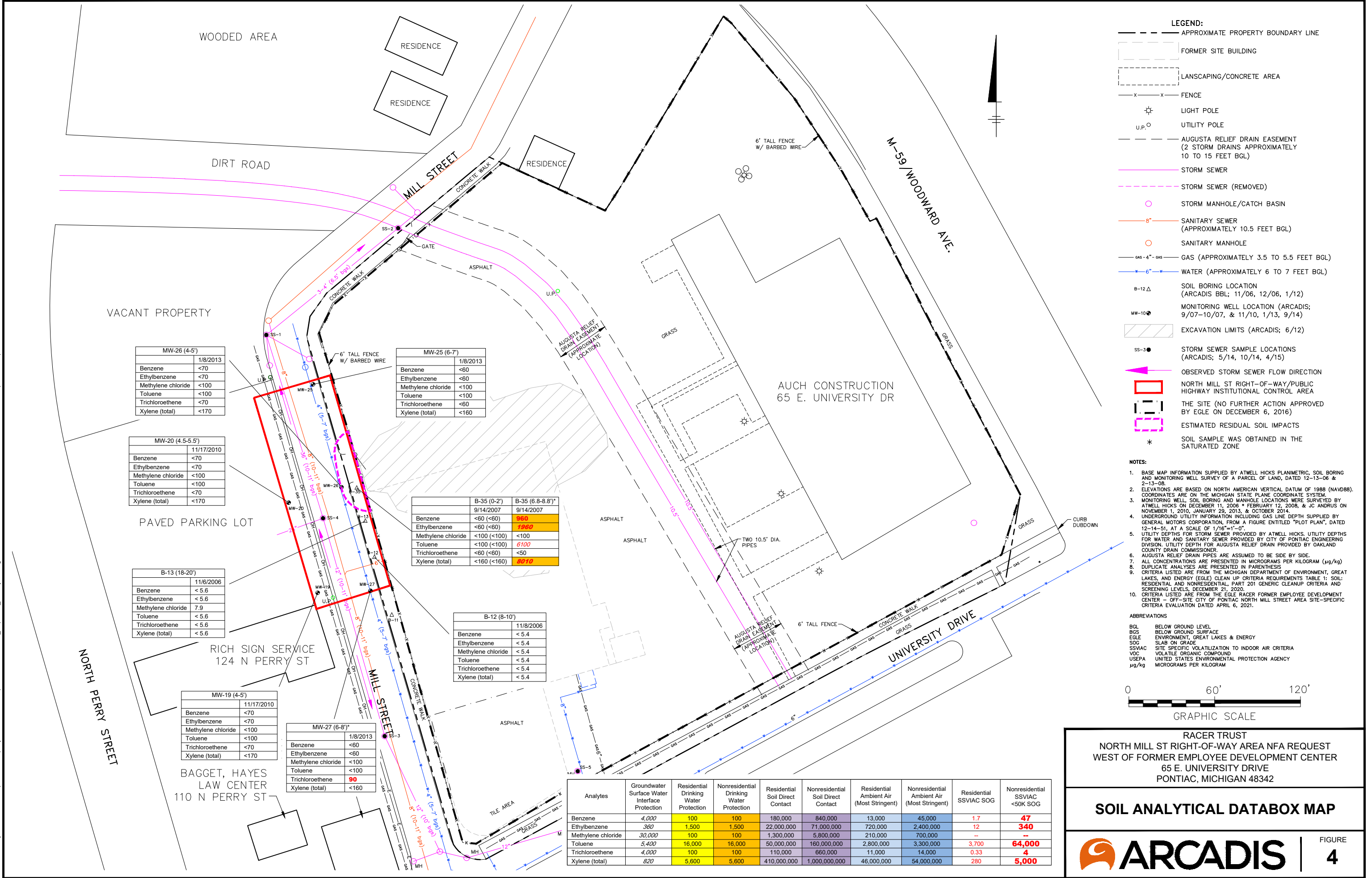
MW-27	
6 - 8	
01/08/2013	
B	<60
E	<60
T	<100
X	<160
M	<300
2-MN	<410
N	<410
1,2,4	<100
1,3,5	<100
TCE	90

Soil Sample ID
Sample Depth (feet below ground surface)
Sample Date

B Benzene (µg/kg)
E Ethylbenzene (µg/kg)
T Toluene (µg/kg)
X Total Xylenes (µg/kg)
M Methyl tert-butyl ether (µg/kg)
2-MN 2-Methylnaphthalene (µg/kg)
N Naphthalene (µg/kg)
1,2,4 1,2,4-Trimethylbenzene (µg/kg)
1,3,5 1,3,5-Trimethylbenzene (µg/kg)
TCE Trichloroethene (µg/kg)



CITY: BRIGHTON DIV: GROUP: 85 DB: ADF LD: (Opt) PIC: (Opt) PM: (Reqd) TM: (Opt) LVR: (Opt) ON: "OFF" REF: D:\GIS\Project Files\Motorist Liquidation Company\PontiacNorth Campus Documents\EDC_Report\02_Site Layout.dwg LAYOUT: 4 SAVED: 12/27/2021 5:18 PM ACADVER: 24.1S (LMS TECH) PAGES: 4 PLOT: 12/27/2021 5:18 PM BY: YARBROUGH, TOBI



RACER TRUST
NORTH MILL ST RIGHT-OF-WAY AREA NFA REQUEST
WEST OF FORMER EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

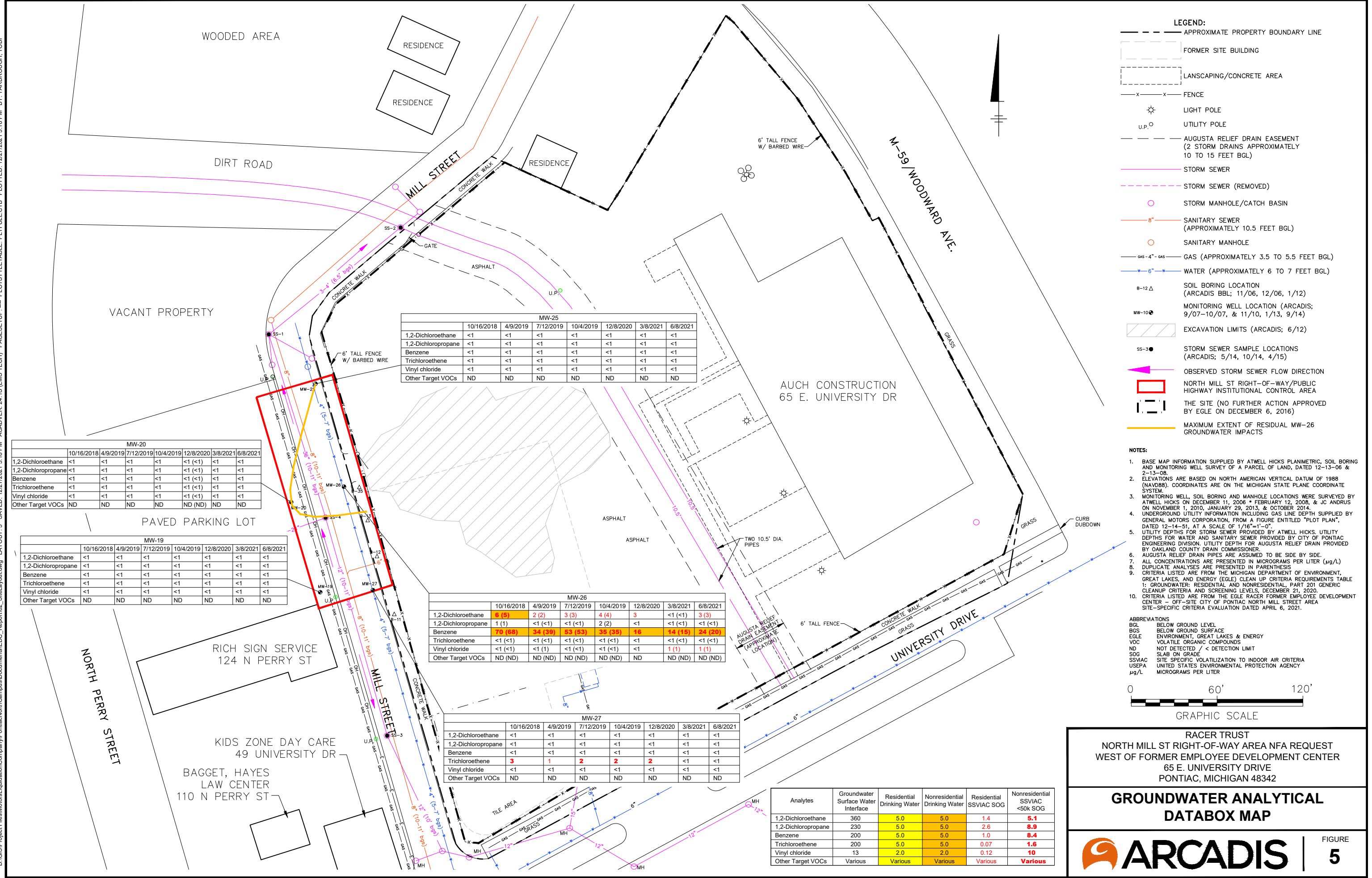
SOIL ANALYTICAL DATABOX MAP

ARCADIS

FIGURE
4

Analytes	Groundwater Surface Water Interface Protection	Residential Drinking Water Protection	Nonresidential Drinking Water Protection	Residential Soil Direct Contact	Nonresidential Soil Direct Contact	Residential Ambient Air (Most Stringent)	Nonresidential Ambient Air (Most Stringent)	Residential SSVIAC SOG	Nonresidential SSVIAC <50K SOG
Benzene	4,000	100	100	180,000	840,000	13,000	45,000	1.7	47
Ethylbenzene	360	1,500	1,500	22,000,000	71,000,000	720,000	2,400,000	12	340
Methylene chloride	30,000	100	100	1,300,000	5,800,000	210,000	700,000	--	--
Toluene	5,400	16,000	16,000	50,000,000	160,000,000	2,800,000	3,300,000	3,700	64,000
Trichloroethene	4,000	100	100	110,000	660,000	11,000	14,000	0.33	4
Xylene (total)	820	5,600	5,600	410,000,000	1,000,000,000	46,000,000	54,000,000	280	5,000

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RACER TRUST
NORTH MILL ST RIGHT-OF-WAY AREA NFA REQUEST
WEST OF FORMER EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

**GROUNDWATER ANALYTICAL
DATABOX MAP**

ARCADIS

FIGURE
5

Analytes	Groundwater Surface Water Interface	Residential Drinking Water	Nonresidential Drinking Water	Residential SSVIAC SOG	Nonresidential SSVIAC <50k SOG
1,2-Dichloroethane	360	5.0	5.0	1.4	5.1
1,2-Dichloropropane	230	5.0	5.0	2.6	8.9
Benzene	200	5.0	5.0	1.0	8.4
Trichloroethene	200	5.0	5.0	0.07	1.6
Vinyl chloride	13	2.0	2.0	0.12	10
Other Target VOCs	Various	Various	Various	Various	Various

Figure 5B
MW-26 Benzene Concentrations (ug/L)

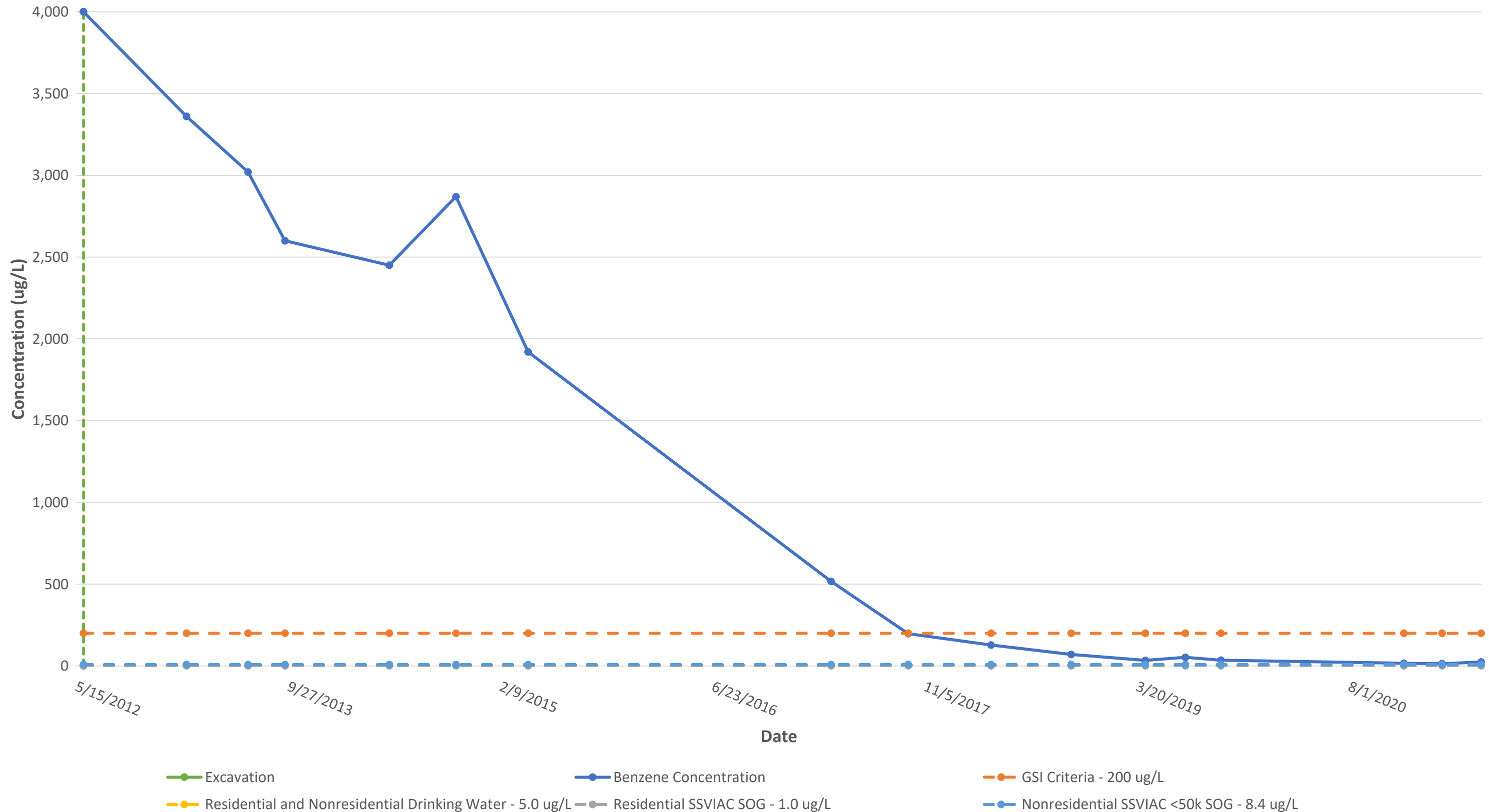
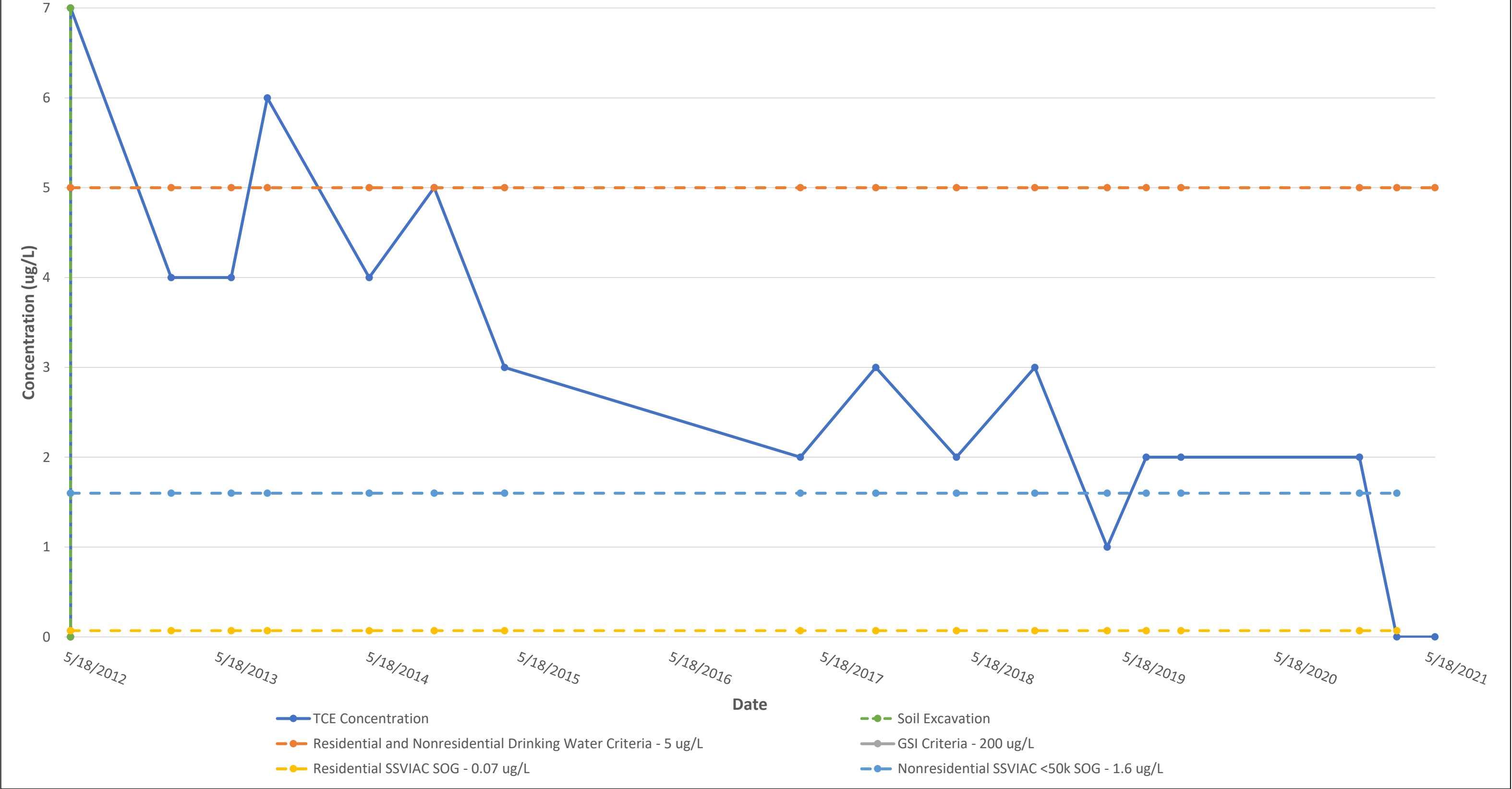
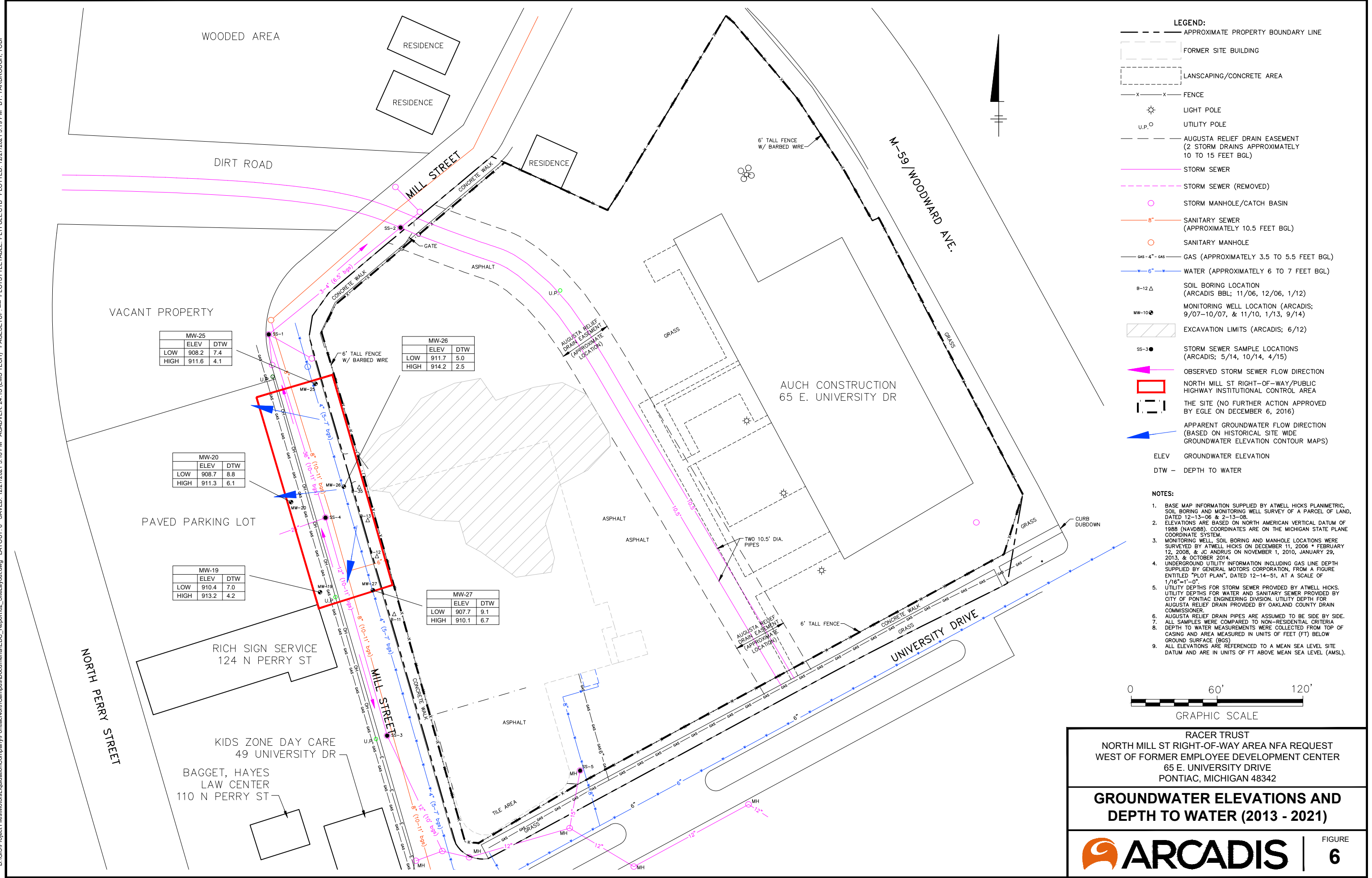


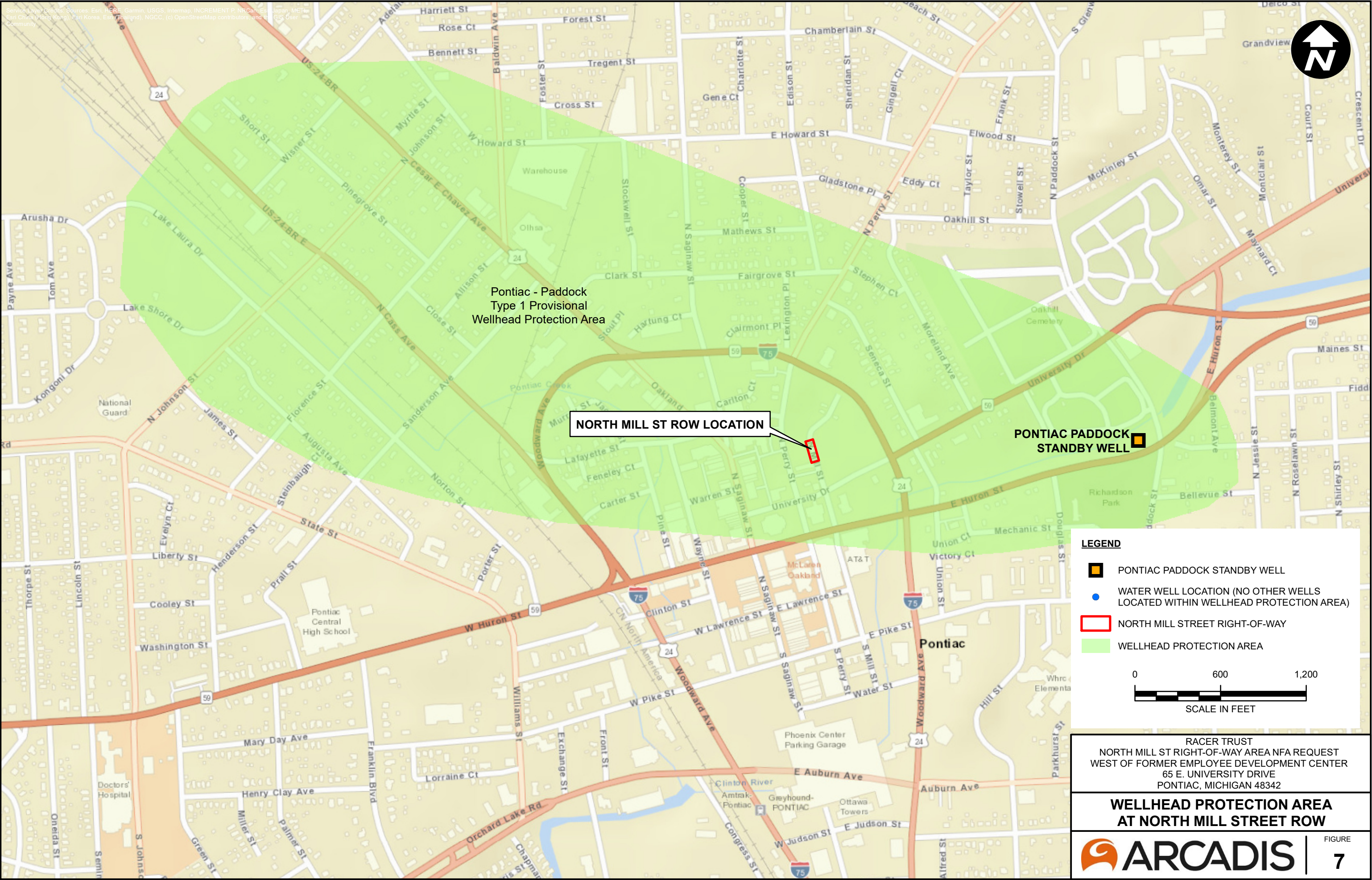
Figure 5C
MW-27 TCE Concentrations (ug/L)



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CITY: NOVI, MI DIV: ENV DB: TRY PIC: TM: TR: PROJECT NUMBER: 30076014.00003 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl D:\GIS\Project Files\MotorsLiquidationCompany\PontiacNorthCampusDocuments\EDC Report\07_WellheadProtectionArea.mxd PLOTTED: 12/27/2021 5:22:53 PM BY: TYarborough



Appendix A

Boring and Monitoring Well Construction Logs

Date Start/Finish: 11/6/06 Drilling Company: Altech Driller's Name: Nick Simmons Drilling Method: Direct Push Sampling Method: 2' x 5' sampler Rig Type: NA	Northing: 417533.1 Easting: 13412751.7 Casing Elevation: NA Borehole Depth: 20' bgs Surface Elevation: 917.5 Descriptions By: Beth Reimer	Well/Boring ID: B-13 Client: General Motors Worldwide Real Estate Location: Employee Development Center Pontiac, Michigan
--	--	---

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
920									
0								CONCRETE.	
915		1	0-5'	5'	0.0			Gray brown CLAY (CL), few medium to coarse Gravel, some fine Gravel, hard, non-plastic to low plasticity, dry.	
5								Stiff to hard, medium plasticity.	
910		2	5-10'	5'	0.0				
10								Dry to moist, plastic.	
905		3	10-15'	4.5'	0.0		CL		Borehole backfilled with soil cuttings
15									
900		4	15-20'	5'	0.0				
20								End of boring at 20' bgs.	



Remarks: NA = not applicable/ not available
 bgs = below ground surface
 No groundwater was encountered. No temporary well installed.
 No odors detected and no staining observed.

Date Start/Finish: 9/14/07 Drilling Company: Boart Longyear Driller's Name: Andrew Roberts Drilling Method: Direct Push Sampling Method: Macrocore Rig Type: NA	Northing: NA Easting: NA Casing Elevation: NA Borehole Depth: 15' bgs Surface Elevation: NA Descriptions By: Jim Kralik	Well/Boring ID: B-35 Client: General Motors Worldwide Real Estate Location: Employee Development Center Pontiac, Michigan
--	--	---

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								
		1	0-5'	5'	0.0			CONCRETE.	
								Yellowish brown CLAY (CL), some fine to coarse Sand, little fine, subrounded Gravel, soft to medium stiff, plastic, no odor.	
					0.3			Thin layer (<1") of fine yellowish brown Sand at 3.5' bgs.	
-5	-5					CL			
		2	5-10'	5'	0.2			Yellowish brown and black well sorted Fill material, fine to coarse SAND, CLAY, fine, subangular to subrounded GRAVEL, some Slag and Concrete debris, medium dense, moist.	
					2.4			Brownish gray CLAY (CL), some fine, subrounded to rounded Gravel, soft to medium stiff, plastic, moist, no odor.	
					0.3			Brownish gray, fine to medium SAND (SP), some coarse Sand, trace fine, subrounded Gravel, medium dense, wet.	
-10	-10					SP			
		3	10-15'	5'	0.0				
					0.4			Grayish brown CLAY (CL), some coarse Sand, trace fine, subrounded Gravel, very stiff, plastic, moist, no odor.	
-15	-15					CL			
								End of boring at 15' bgs.	



Remarks: Soil samples collected from 0-2' bgs and 6.8-8.8' bgs.
NA = not applicable/ not available
bgs = below ground surface
Temporary PVC well installed for groundwater sampling. After sampling, temp well was removed and borehole was backfilled with bentonite chip with a concrete surface completion.

Date Start/Finish: 11/17/2010 Drilling Company: Terra Probe Driller's Name: Joe Fojtik Drilling Method: Geoprobe / Hollow Stem Auger Sampling Method: Hand Auger & 4' Macrocore Rig Type: 6620 DT Geoprobe	Northing: 417483.14 Easting: 13412718.40 Casing Elevation: 917.380081 Borehole Depth: 20' bgs Surface Elevation: 917.77 Descriptions By: Amber Dmytro	Well/Boring ID: MW-19 Client: Motors Liquidation Company Location: MLC - Former Pontiac Employment Development Center
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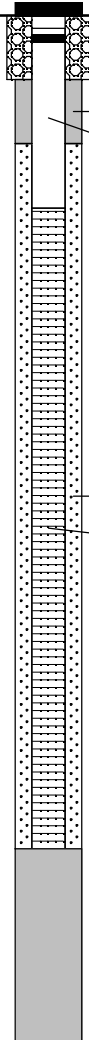
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0								ASPHALT	
					0.0	FILL	x x x	FILL: Sand, gravel and brick.	
					0.0			CLAY, medium plasticity, some silt, stiff to medium stiff, brown (10YR 5/3). Note: roots throughout.	
915		1	0-5'	5.0	0.0	CL			Bentonite Pellets (0.5-2' bgs) Sch-40 PVC Riser
					0.0				
					0.0	SP		SAND, very fine to fine some medium, trace coarse; poorly sorted; dry; yellowish brown (10YR 5/4). Soils moist to wet at 5' bgs.	
5		2	5-8'	2.9	0.0			CLAY and silt, medium plasticity, little medium sand to small pebble, subangular to subrounded; stiff; dry to moist; no dilatancy; gray (10YR 5/1). Note: some wet seams, rapid dilatancy, trace very fine to fine sand seams.	
					0.0				
910									Sand Pack (2-13' bg) 2" Sch-40 PVC 10 Slot Well Screen (3-13' bgs)
		3	8-12'	3.0	0.0				
					0.0				
905						CL			
		4	12-16'	2.9	0.0				
15					0.0				
		5	16-20'	2.9	0.0				
					0.0				
900									
20								End of boring at 20' bgs.	



Remarks: bgs = below ground surface

Soil sample MW-19-11172010 (4-5) collected for laboratory analysis
 Groundwater encountered at 5' bgs.
 No staining or odor detected.

Date Start/Finish: 11/17/2010 Drilling Company: Terra Probe Driller's Name: Joe Fojtik Drilling Method: Geoprobe / Hollow Stem Auger Sampling Method: Hand Auger & 4' Macrocore Rig Type: 6620 DT Geoprobe	Northing: 417546.01 Easting: 13412698.09 Casing Elevation: 917.45 Borehole Depth: 16' bgs Surface Elevation: 917.92 Descriptions By: Amber Dmytro	Well/Boring ID: MW-20 Client: Motors Liquidation Company Location: MLC - Former Pontiac Employment Development Center
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0									
					0.0	FILL		ASPHALT	 Bentonite Pellets (0.5-2' bgs) Sch-40 PVC Riser Sand Pack (2-13' bg) 2" Sch-40 PVC 10 Slot Well Screen (3-13' bgs)
					0.0			FILL: Sand and brick.	
915		1	0-5'	5.0	0.0	SP		SAND, very fine, some fine, some silt, trace clay; poorly sorted; dry; yellowish brown (10YR 5/6).	
					0.0				
					0.0	CL		CLAY, medium plasticity, some silt, little very fine sand; dry; stiff to medium stiff; brown (10YR 5/3).	
5					0.0				
		2	5-8'	2.3	0.0	SP		SAND, very fine to fine, some medium, little coarse to granule, trace small pebble, subangular to subrounded; poorly sorted; moist to wet; yellowish brown (10YR 5/4).	
					0.0			CLAY, high plasticity, little silt; dry to moist; medium stiff; grayish brown (10YR 5/2).	
					0.0			SAND, very fine to medium, some coarse, little very coarse to granule; poorly sorted; wet; yellowish brown (10YR 5/6).	
910					0.0	SP			
					0.0			CLAY and silt, medium plasticity, little medium sand to small pebble, subangular to subrounded; dry to moist; stiff; gray (10YR 5/1). NOTE: some wet seams, rapid dilatancy.	
10		3	8-12'	3.3	0.0				
					0.0				
					0.0				
905					0.0	CL / ML			
		4	12-16'	2.4	0.0				
15					0.0				
								End of boring at 16' bgs.	
900									



Remarks: bgs = below ground surface

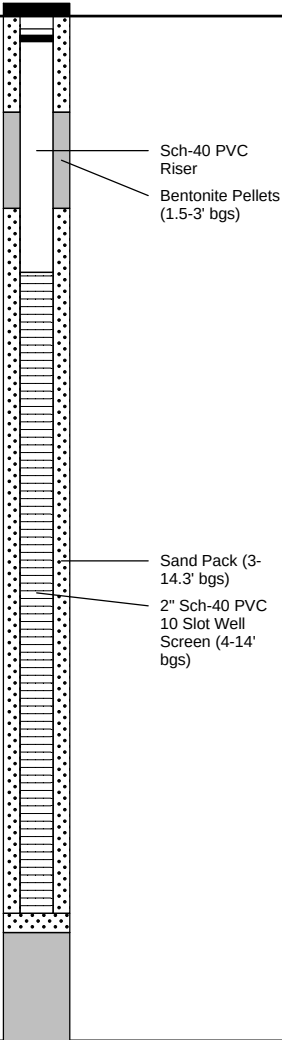
Soil sample MW-20-11172010 (4.5-5.5) collected for laboratory analysis
 Groundwater encountered at 5.6' bgs.
 No staining or odor detected.

Date Start/Finish: 11/17/2010 Drilling Company: Terra Probe Driller's Name: Joe Fojtik Drilling Method: Geoprobe / Hollow Stem Auger Sampling Method: Hand Auger & 4' Macrocore Rig Type: 6620 DT Geoprobe	Northing: 417546.01 Easting: 13412698.09 Casing Elevation: 917.45 Borehole Depth: 16' bgs Surface Elevation: 917.92 Descriptions By: Amber Dmytro	Well/Boring ID: MW-20 Client: Motors Liquidation Company Location: MLC - Former Pontiac Employment Development Center
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20									

	Remarks: bgs = below ground surface Soil sample MW-20-11172010 (4.5-5.5) collected for laboratory analysis Groundwater encountered at 5.6' bgs. No staining or odor detected.
---	---

Date Start/Finish: 1/8/13 Drilling Company: Fibertec Driller's Name: Garrett Careth Drilling Method: Air Knife / Geoprobe / HSA Sampling Method: Air Knife / 5' Macrocore Rig Type: 6620 DT Geoprobe	Northing: Easting: Casing Elevation: Borehole Depth: 18' bgs Surface Elevation: Descriptions By: Christine Snyder	Well/Boring ID: MW-25 Client: RACER Trust Location: Former Pontiac Employment Development Center
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DEPTH (feet bgs.)	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								
		1	0-8'	8.0	NA			(0-0.7) CONCRETE. (0.7-13) SAND, fine to medium, trace very coarse sand to small pebble, subround to subangular; poorly sorted; dry; dark yellowish brown (10YR 4/4). NOTE: wet at 7' bgs.	 Sch-40 PVC Riser Bentonite Pellets (1.5-3' bgs) Sand Pack (3-14.3' bgs) 2" Sch-40 PVC 10 Slot Well Screen (4-14' bgs)
-5	-5							NOTE: some granules to small pebbles, subround to subangular from 10-11' bgs.	
-10	-10	2	8-13'	3.5				(13-13.5) SILT, some very fine sand; soft; wet; rapid dilatancy; brown (10YR 5/3). (13.5-18) CLAY, high plasticity; trace silt; medium stiff to soft; grayish brown (10YR 5/2).	
-15	-15	3	13-18'	3.1					

	Remarks: bgs = below ground surface Soil sample collected at 6-7' for laboratory analysis Groundwater encountered at 7' bgs. No staining or odor detected.
--	--

Date Start/Finish: 1/8/13 Drilling Company: Fibertec Driller's Name: Garrett Careth Drilling Method: Air Knife / Geoprobe / HSA Sampling Method: Air Knife / 5' Macrocore Rig Type: 6620 DT Geoprobe	Northing: Easting: Casing Elevation: Borehole Depth: 18' bgs Surface Elevation: Descriptions By: Christine Snyder	Well/Boring ID: MW-25 Client: RACER Trust Location: Former Pontiac Employment Development Center
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DEPTH (feet bgs.)	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
					0.0			(13.5-18) CLAY, high plasticity; trace silt; medium stiff to soft; grayish brown (10YR 5/2).	
					0.0				
								End of boring at 18' bgs.	
20	-20								
25	-25								
30	-30								
35	-35								

	Remarks: bgs = below ground surface Soil sample collected at 6-7' for laboratory analysis Groundwater encountered at 7' bgs. No staining or odor detected.
--	--

Date Start/Finish: 1/8/13 Drilling Company: Fibertec Driller's Name: Garrett Careth Drilling Method: Air Knife / Geoprobe / HSA Sampling Method: Air Knife / 5' Macrocore Rig Type: 6620 DT Geoprobe	Northing: Easting: Casing Elevation: Borehole Depth: 18' bgs Surface Elevation: Descriptions By: Christine Snyder	Well/Boring ID: MW-26 Client: RACER Trust Location: Former Pontiac Employment Development Center
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DEPTH (feet bgs.)	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								
								(0-0.7) CONCRETE.	
					NA			(0.7-5) CLAY, high plasticity, trace silt; medium stiff; moist; grayish brown (10YR 5/2).	
					0.3				
					0.6				
		1	0-8'	8.0				NOTE: moist at 4-5' bgs.	
5	-5				0.5				
					0.4			(5-10) SAND, very fine to fine, little silt; wet; rapid dilatancy; grayish brown (10YR 5/2).	
					4.6				
					6.6				
					0.0				
10	-10				0.0				
		2	8-13'	3.5				(10-18) CLAY, low to medium plasticity, trace small to large pebble, subround to subangular; medium stiff to stiff; moist; dark grayish brown (10YR 4/2).	
					0.1				
					0.1				
					0.0				
15	-15				0.0				
		3	13-18'	3.0					
					0.1				

	Remarks: bgs = below ground surface Soil sample collected at 4-5' for laboratory analysis Groundwater encountered at 5' bgs. No staining or odor detected.
--	--

Date Start/Finish: 1/8/13 Drilling Company: Fibertec Driller's Name: Garrett Careth Drilling Method: Air Knife / Geoprobe / HSA Sampling Method: Air Knife / 5' Macrocore Rig Type: 6620 DT Geoprobe	Northing: Easting: Casing Elevation: Borehole Depth: 18' bgs Surface Elevation: Descriptions By: Christine Snyder	Well/Boring ID: MW-26 Client: RACER Trust Location: Former Pontiac Employment Development Center
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DEPTH (feet bgs.)	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
					0.0			(10-18) CLAY, low to medium plasticity, trace small to large pebble, subround to subangular; medium stiff to stiff; moist; dark grayish brown (10YR 4/2).	
					0.1				
20 -20								End of boring at 18' bgs.	
25 -25									
30 -30									
35 -35									

	Remarks: bgs = below ground surface Soil sample collected at 4-5' for laboratory analysis Groundwater encountered at 5' bgs. No staining or odor detected.
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Appendix B

Groundwater Sampling Analytical Reports

March 29, 2017

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S80295.01(01)
Generated on 04/06/2017

Report to

Attention: Ashlee Charters
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 517-974-4441 FAX: 248-994-2241
Email: Ashlee.Charters@arcadis.com

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): S80295.01-S80295.07
Project: B0064486.2017.00003 / Racer Pontiac
Collected Date: 03/29/2017
Submitted Date/Time: 03/30/2017 14:30
Sampled by: Donald Richmond
P.O. #: B0064486.2017.00003

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Report Narrative (Page 2)
Laboratory Certifications (Page 3)
Qualifier Descriptions (Page 3)
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Method Summary (Page 4)
Sample Summary (Page 5)

A handwritten signature in black ink, appearing to read "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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S80295.01	MW-27 (032917)	Groundwater	03/29/17 09:50
S80295.02	MW-26 (032917)	Groundwater	03/29/17 11:15
S80295.03	MW-25 (032917)	Groundwater	03/29/17 13:25
S80295.04	MW-19 (032917)	Groundwater	03/29/17 14:30
S80295.05	MW-20 (032917)	Groundwater	03/29/17 15:45
S80295.06	Trip Blank	Water	03/29/17 00:01
S80295.07	Dup-01	Groundwater	03/29/17 00:01



Analytical Laboratory Report

Lab Sample ID: S80295.01
Sample Tag: MW-27 (032917)
Collected Date/Time: 03/29/2017 09:50
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/05/17 04:30	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 04:30	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/05/17 04:30	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/05/17 04:30	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/05/17 04:30	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/05/17 04:30	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 04:30	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	107-06-2	
Trichloroethene	2	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S80295.01 (continued)

Sample Tag: MW-27 (032917)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/05/17 04:30	JML		
o-Xylene*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 04:30	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 04:30	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S80295.02
Sample Tag: MW-26 (032917)
Collected Date/Time: 03/29/2017 11:15
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	50	SW5030C/8260C	04/05/17 18:34	JML	60-29-7	Y
Acetone	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:34	JML	67-64-1	Y
Methyl iodide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	74-88-4	Y
Carbon disulfide	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	1634-04-4	Y
Acrylonitrile	Not detected	ug/L	10	SW5030C/8260C	04/05/17 18:34	JML	107-13-1	Y
2-Butanone (MEK)	Not detected	ug/L	130	SW5030C/8260C	04/05/17 18:34	JML	78-93-3	Y
Dichlorodifluoromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	75-71-8	Y
Chloromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	74-87-3	Y
Vinyl chloride	8	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-01-4	Y
Bromomethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	74-83-9	Y
Chloroethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	75-00-3	Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-69-4	Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-35-4	Y
Methylene chloride	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	156-60-5	Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	156-59-2	Y
Tetrahydrofuran*	Not detected	ug/L	450	SW5030C/8260C	04/05/17 18:34	JML	109-99-9	Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	67-66-3	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	74-97-5	Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:34	JML	108-10-1	Y
2-Hexanone	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:34	JML	591-78-6	Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	56-23-5	Y
Benzene	517	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	71-43-2	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	107-06-2	Y
Trichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	79-01-6	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	78-87-5	Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-27-4	Y
Dibromomethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	10061-01-5	Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	79-00-5	Y
Tetrachloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	110-57-6	Y
Dibromochloromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	124-48-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S80295.02 (continued)

Sample Tag: MW-26 (032917)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	106-93-4	Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	630-20-6	Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	100-41-4	Y
p,m-Xylene*	Not detected	ug/L	10	SW5030C/8260C	04/05/17 18:34	JML		Y
o-Xylene*	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	95-47-6	Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	100-42-5	Y
Isopropylbenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	98-82-8	Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	79-34-5	Y
1,2,3-Trichloropropane*	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	96-18-4	Y
n-Propylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	103-65-1	Y
Bromobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	108-67-8	Y
tert-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	95-63-6	Y
sec-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	135-98-8	Y
p-Isopropyltoluene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	99-87-6	Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	541-73-1	Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	106-46-7	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	526-73-8	Y
n-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:34	JML	104-51-8	Y
Hexachloroethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	87-61-6	Y
Naphthalene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	91-20-3	Y
2-Methylnaphthalene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:34	JML	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S80295.03
Sample Tag: MW-25 (032917)
Collected Date/Time: 03/29/2017 13:25
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/05/17 17:30	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:30	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/05/17 17:30	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/05/17 17:30	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/05/17 17:30	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:30	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:30	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S80295.03 (continued)

Sample Tag: MW-25 (032917)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/05/17 17:30	JML		
o-Xylene*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:30	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:30	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S80295.04
Sample Tag: MW-19 (032917)
Collected Date/Time: 03/29/2017 14:30
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/05/17 17:51	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:51	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/05/17 17:51	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/05/17 17:51	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/05/17 17:51	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:51	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 17:51	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S80295.04 (continued)

Sample Tag: MW-19 (032917)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/05/17 17:51	JML		
o-Xylene*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 17:51	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 17:51	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S80295.05
Sample Tag: MW-20 (032917)
Collected Date/Time: 03/29/2017 15:45
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/05/17 18:13	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 18:13	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/05/17 18:13	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/05/17 18:13	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/05/17 18:13	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/05/17 18:13	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 18:13	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S80295.05 (continued)

Sample Tag: MW-20 (032917)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/05/17 18:13	JML		
o-Xylene*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 18:13	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:13	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S80295.06
Sample Tag: Trip Blank
Collected Date/Time: 03/29/2017 00:01
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.7	IR

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

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/05/17 00:17	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 00:17	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/05/17 00:17	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/05/17 00:17	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/05/17 00:17	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/05/17 00:17	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/05/17 00:17	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	106-93-4	



Analytical Laboratory Report

Lab Sample ID: S80295.06 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/05/17 00:17	JML		
o-Xylene*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/05/17 00:17	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 00:17	JML	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S80295.07
Sample Tag: Dup-01
Collected Date/Time: 03/29/2017 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.7	IR

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

Extraction / Prep.

pH check for VOCs*	<2	STD Units		N/A	04/05/17 13:10	KCV		
--------------------	----	-----------	--	-----	----------------	-----	--	--

Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	50	SW5030C/8260C	04/05/17 18:55	JML	60-29-7	Y
Acetone	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:55	JML	67-64-1	Y
Methyl iodide	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	74-88-4	Y
Carbon disulfide	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	1634-04-4	Y
Acrylonitrile	Not detected	ug/L	10	SW5030C/8260C	04/05/17 18:55	JML	107-13-1	Y
2-Butanone (MEK)	Not detected	ug/L	130	SW5030C/8260C	04/05/17 18:55	JML	78-93-3	Y
Dichlorodifluoromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	75-71-8	Y
Chloromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	74-87-3	Y
Vinyl chloride	8	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-01-4	Y
Bromomethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	74-83-9	Y
Chloroethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	75-00-3	Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-69-4	Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-35-4	Y
Methylene chloride	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	156-60-5	Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	156-59-2	Y
Tetrahydrofuran*	Not detected	ug/L	450	SW5030C/8260C	04/05/17 18:55	JML	109-99-9	Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	67-66-3	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	74-97-5	Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:55	JML	108-10-1	Y
2-Hexanone	Not detected	ug/L	250	SW5030C/8260C	04/05/17 18:55	JML	591-78-6	Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	56-23-5	Y
Benzene	512	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	71-43-2	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	107-06-2	Y
Trichloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	79-01-6	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	78-87-5	Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-27-4	Y
Dibromomethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	10061-01-5	Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	79-00-5	Y
Tetrachloroethene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	110-57-6	Y
Dibromochloromethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	124-48-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S80295.07 (continued)

Sample Tag: Dup-01

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	106-93-4	Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	630-20-6	Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	100-41-4	Y
p,m-Xylene*	Not detected	ug/L	10	SW5030C/8260C	04/05/17 18:55	JML		Y
o-Xylene*	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	95-47-6	Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	100-42-5	Y
Isopropylbenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	98-82-8	Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	79-34-5	Y
1,2,3-Trichloropropane*	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	96-18-4	Y
n-Propylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	103-65-1	Y
Bromobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	108-67-8	Y
tert-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	95-63-6	Y
sec-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	135-98-8	Y
p-Isopropyltoluene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	99-87-6	Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	541-73-1	Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	106-46-7	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	526-73-8	Y
n-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/05/17 18:55	JML	104-51-8	Y
Hexachloroethane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	87-61-6	Y
Naphthalene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	91-20-3	Y
2-Methylnaphthalene	Not detected	ug/L	30	SW5030C/8260C	04/05/17 18:55	JML	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Merit

Laboratories, Inc.

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C.O.C. PAGE #

1 OF 1

102004

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Ashley Charters		CONTACT NAME SAME	
COMPANY Arcadis		COMPANY	
ADDRESS 28550 Cabot Dr Novi MI		ADDRESS	
CITY Novi	STATE MI	ZIP CODE 48377	
PHONE NO. 517 974 4411	FAX NO.	PO NO.	E-MAIL ADDRESS
E-MAIL ADDRESS Ashley.charters@arcadis.com		QUOTE NO.	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT E 14486, 2017, 11/3/17	SAMPLER(S) PLEASE PRINT/SIGN NAME Donald Fisher
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 SL=SLUDGE	WW=WASTEWATER DW=DRINKING WATER	S=SOIL O=OIL	L=LIQUID WP=WIPE	SD=SOLID A=AIR	W=WASTE
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Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MTR	# OF BTL	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
	DATE	TIME										
60296-01	3/29/17	09:50	MW-27 (032917)		3		X					
	3/29/17	11:15	Cold SD (032917)		3		X					
	3/29/17	13:29	MW-25 (032917)		3		X					

Certifications

- ☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

- ☐ Detroit ☐ New York

☐ Other

Special Instructions

Add Stone / Arcadis
Miller

8260/624

September 27, 2017
Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S84046.01(01)

Generated on 10/03/2017

Report to

Attention: Brad Saunders

Arcadis

28550 Cabot Drive

Suite 500

Novi, MI 48377

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

Email: brad.saunders@arcadis.com

Report produced by

Merit Laboratories, Inc.

2680 East Lansing Drive

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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): S84046.01-S84046.08

Project: B0064486.2017.00003 / RACER 64486

Collected Date: 09/27/2017

Submitted Date/Time: 09/28/2017 13:30

Sampled by: Chelsea Augustine

P.O. #: B0064486.2017.00003

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



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84046.01	Trip Blank	Water	09/27/17 00:01
S84046.02	MW-20(09272017)	Groundwater	09/27/17 09:55
S84046.03	MW-25(09272017)	Groundwater	09/27/17 11:20
S84046.04	MW-26(09272017)	Groundwater	09/27/17 12:45
S84046.05	MW-27(09272017)	Groundwater	09/27/17 13:45
S84046.06	MW-19(09272017)	Groundwater	09/27/17 14:45
S84046.07	Dup-01(09272017)	Groundwater	09/27/17 00:01
S84046.08	Equipment Blank	Water	09/27/17 09:10



Analytical Laboratory Report

Lab Sample ID: S84046.01

Sample Tag: Trip Blank

Collected Date/Time: 09/27/2017 00:01

Matrix: Water

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 15:42	JML		
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:42	JML		
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 15:42	JML		
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 15:42	JML	200,000	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	200	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	700	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 15:42	JML		
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	6,000	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:42	JML		
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:42	JML		
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	500	
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	500	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	500	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	500	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	700	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.01 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 15:42	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:42	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:42	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.02

Sample Tag: MW-20(09272017)

Collected Date/Time: 09/27/2017 09:55

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV	
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 21:12	JML	
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:12	JML	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 21:12	JML	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 21:12	JML	200,000
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	200
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	700
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 21:12	JML	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	6,000
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:12	JML	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:12	JML	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	500
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	500
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	500
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	500
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	700
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	



Analytical Laboratory Report

Lab Sample ID: S84046.02 (continued)

Sample Tag: MW-20(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 21:12	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:12	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:12	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.03

Sample Tag: MW-25(09272017)

Collected Date/Time: 09/27/2017 11:20

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 21:33	JML		
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:33	JML		
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 21:33	JML		
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 21:33	JML	200,000	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	200	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	700	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 21:33	JML		
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	6,000	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:33	JML		
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 21:33	JML		
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	500	
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	500	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	500	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	500	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	700	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.03 (continued)

Sample Tag: MW-25(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 21:33	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 21:33	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 21:33	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.04

Sample Tag: MW-26(09272017)

Collected Date/Time: 09/27/2017 12:45

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	50	SW5030C/8260C	10/02/17 19:11	JML		Y
Acetone	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:11	JML		Y
Methyl iodide	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Carbon disulfide	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Acrylonitrile	Not detected	ug/L	10	SW5030C/8260C	10/02/17 19:11	JML		Y
2-Butanone (MEK)	Not detected	ug/L	130	SW5030C/8260C	10/02/17 19:11	JML	200,000	Y
Dichlorodifluoromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Chloromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Vinyl chloride	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	200	Y
Bromomethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Chloroethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	700	Y
Methylene chloride	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
cis-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Tetrahydrofuran*	Not detected	ug/L	450	SW5030C/8260C	10/02/17 19:11	JML		Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	6,000	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:11	JML		Y
2-Hexanone	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:11	JML		Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	500	Y
Benzene	197	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	500	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	500	Y
Trichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	500	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Dibromomethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Tetrachloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	700	Y
trans-1,4-Dichloro-2-butene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Dibromochloromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84046.04 (continued)

Sample Tag: MW-26(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	100,000	Y
1,1,1,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
p,m-Xylene*	Not detected	ug/L	10	SW5030C/8260C	10/02/17 19:11	JML		Y
o-Xylene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Isopropylbenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,2,3-Trichloropropane*	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
n-Propylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Bromobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,3,5-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
tert-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,2,4-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
sec-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
p-Isopropyltoluene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML	7,500	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
1,2,3-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
n-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:11	JML		Y
Hexachloroethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML	3,000	Y
1,2-Dibromo-3-chloropropane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
1,2,4-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
1,2,3-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
Naphthalene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y
2-Methylnaphthalene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:11	JML		Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84046.05

Sample Tag: MW-27(09272017)

Collected Date/Time: 09/27/2017 13:45

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 14:52	JML		
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:52	JML		
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 14:52	JML		
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 14:52	JML	200,000	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	200	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	700	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 14:52	JML		
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	6,000	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:52	JML		
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:52	JML		
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	500	
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	500	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	500	
Trichloroethene	3	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	500	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	700	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.05 (continued)

Sample Tag: MW-27(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 14:52	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:52	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:52	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.06

Sample Tag: MW-19(09272017)

Collected Date/Time: 09/27/2017 14:45

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 15:14	JML		
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:14	JML		
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 15:14	JML		
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 15:14	JML	200,000	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	200	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	700	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 15:14	JML		
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	6,000	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:14	JML		
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 15:14	JML		
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	500	
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	500	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	500	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	500	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	700	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.06 (continued)

Sample Tag: MW-19(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 15:14	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 15:14	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 15:14	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.07

Sample Tag: Dup-01(09272017)

Collected Date/Time: 09/27/2017 00:01

Matrix: Groundwater

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	50	SW5030C/8260C	10/02/17 19:32	JML		Y
Acetone	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:32	JML		Y
Methyl iodide	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Carbon disulfide	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Acrylonitrile	Not detected	ug/L	10	SW5030C/8260C	10/02/17 19:32	JML		Y
2-Butanone (MEK)	Not detected	ug/L	130	SW5030C/8260C	10/02/17 19:32	JML	200,000	Y
Dichlorodifluoromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Chloromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Vinyl chloride	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	200	Y
Bromomethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Chloroethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	700	Y
Methylene chloride	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
cis-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Tetrahydrofuran*	Not detected	ug/L	450	SW5030C/8260C	10/02/17 19:32	JML		Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	6,000	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:32	JML		Y
2-Hexanone	Not detected	ug/L	250	SW5030C/8260C	10/02/17 19:32	JML		Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	500	Y
Benzene	191	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	500	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	500	Y
Trichloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	500	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Dibromomethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Tetrachloroethene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	700	Y
trans-1,4-Dichloro-2-butene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Dibromochloromethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84046.07 (continued)

Sample Tag: Dup-01(09272017)

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	100,000	Y
1,1,1,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
p,m-Xylene*	Not detected	ug/L	10	SW5030C/8260C	10/02/17 19:32	JML		Y
o-Xylene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Isopropylbenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,2,3-Trichloropropane*	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
n-Propylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Bromobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,3,5-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
tert-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,2,4-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
sec-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
p-Isopropyltoluene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML	7,500	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
1,2,3-Trimethylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
n-Butylbenzene	Not detected	ug/L	5	SW5030C/8260C	10/02/17 19:32	JML		Y
Hexachloroethane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML	3,000	Y
1,2-Dibromo-3-chloropropane	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
1,2,4-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
1,2,3-Trichlorobenzene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
Naphthalene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y
2-Methylnaphthalene	Not detected	ug/L	30	SW5030C/8260C	10/02/17 19:32	JML		Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84046.08

Sample Tag: Equipment Blank

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

Matrix: Water

COC Reference: 107925

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	No	5.1	IR

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

pH check for VOCs*	<2	STD Units		N/A	10/02/17 13:30	KCV		
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Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	09/29/17 14:32	JML		
Acetone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:32	JML		
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	09/29/17 14:32	JML		
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	09/29/17 14:32	JML	200,000	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	200	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	700	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	09/29/17 14:32	JML		
Chloroform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	6,000	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:32	JML		
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	09/29/17 14:32	JML		
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	500	
Benzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	500	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	500	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	500	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Toluene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	700	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		



Analytical Laboratory Report

Lab Sample ID: S84046.08 (continued)

Sample Tag: Equipment Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	Limits	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	100,000	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	09/29/17 14:32	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Styrene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Bromoform	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML	7,500	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	09/29/17 14:32	JML		
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML	3,000	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	09/29/17 14:32	JML		



Merit

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C.O.C. PAGE # 1 OF 1

107925

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Brad Saunders			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive, Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 810-225-1904	NO.	P.O. NO.	
E-MAIL ADDRESS brad.saunders@arcadis.com		QUOTE NO.	

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 60064486.2017.00003 / RACER 64486	SAMPLER(S) - PLEASE PRINT/SIGN NAME Chelsea Augustine / Chelsea Augustine
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=WAS R S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE
# Containers & Preservatives	

06-8260

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MTR	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
	DATE	TIME										
84046.01	—	—	TRIP BLANK	TB	1		X					
02	9-27-17	0955	MW-20 (09272017)	GW	3		X					
03	11-20-17	1200	MW-25 (09272017)	GW	3		X					

[Handwritten signature]

April 10, 2018

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S88914.01(01)

Generated on 04/17/2018

Report to

Attention: Brad Saunders

Arcadis

28550 Cabot Drive

Suite 500

Novi, MI 48377

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

Email: brad.saunders@arcadis.com

Report produced by

Merit Laboratories, Inc.

2680 East Lansing Drive

East Lansing, MI 48823

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Contacts for report questions:

John Lavery (johnlavery@meritlabs.com)

Barbara Ball (bball@meritlabs.com)

Report Summary

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

Project: B0064486.2018.00003

Collected Date: 04/10/2018

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

Sampled by: Ashley Reibel

P.O. #: B0064486.2018.00003

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A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak

Technical Director



Analytical Laboratory Report

General Report Notes

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

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



Analytical Laboratory Report

Lab Sample ID: S88914.01

Sample Tag: MW-25_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.01 (continued)

Sample Tag: MW-25_041018

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



Analytical Laboratory Report

Lab Sample ID: S88914.02

Sample Tag: MW-26_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.02 (continued)

Sample Tag: MW-26_041018

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



Analytical Laboratory Report

Lab Sample ID: S88914.03

Sample Tag: MW-19_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.03 (continued)

Sample Tag: MW-19_041018

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



Analytical Laboratory Report

Lab Sample ID: S88914.04

Sample Tag: MW-27_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.04 (continued)

Sample Tag: MW-27_041018

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



Analytical Laboratory Report

Lab Sample ID: S88914.05

Sample Tag: MW-20_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.05 (continued)

Sample Tag: MW-20_041018

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



Analytical Laboratory Report

Lab Sample ID: S88914.06

Sample Tag: TRIPBLANK_01

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

Matrix: Water

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.06 (continued)

Sample Tag: TRIPBLANK_01

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



Analytical Laboratory Report

Lab Sample ID: S88914.07

Sample Tag: Dup-01_041018

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

Matrix: Groundwater

COC Reference: 114393

Sample Containers

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

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

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

Volatile Organics - DEQ List

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



Analytical Laboratory Report

Lab Sample ID: S88914.07 (continued)

Sample Tag: Dup-01_041018

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



114393

INVOICE TO

CONTACT NAME		[REDACTED] SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO		E-MAIL ADDRESS	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Containers & Preservatives

[illegible]

SW 846M-TH						Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DOD ☐ NPDES Project Locations ☐ Detroit ☐ New York ☐ Other _____ Special Instructions
<i>[Signature]</i>	<i>M. Chiswick</i>	<i>4-11-18</i>	<i>DATE</i>	<i>4/18</i>	<i>TIME</i>	<i>5:15</i>

October 16, 2018

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S95661.01(01)
Generated on 10/23/2018

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX: 248-994-2241
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Report produced by

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

Report Summary

Lab Sample ID(s): S95661.01-S95661.07
Project: B0064486.2018.00003
Collected Date: 10/16/2018
Submitted Date/Time: 10/17/2018 08:31
Sampled by: Daniel Stockard
P.O. #: B0064486.2018.00003

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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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S95661.01	MW-25_101618	Groundwater	10/16/18 09:20
S95661.02	MW-26_101618	Groundwater	10/16/18 10:10
S95661.03	MW-27_101618	Groundwater	10/16/18 11:20
S95661.04	MW-19_101618	Groundwater	10/16/18 12:35
S95661.05	MW-20_101618	Groundwater	10/16/18 13:25
S95661.06	DUP-01	Groundwater	10/16/18 00:01
S95661.07	Trip Blank	Water	10/16/18 00:01



Analytical Laboratory Report

Lab Sample ID: S95661.01

Sample Tag: MW-25_101618

Collected Date/Time: 10/16/2018 09:20

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/20/18 23:25, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S95661.01 (continued)

Sample Tag: MW-25_101618

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/20/18 23:25, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.02

Sample Tag: MW-26_101618

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

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/20/18 23:44, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	70	1		ug/L	1	71-43-2	
1,2-Dichloroethane	6	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	1	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.02 (continued)

Sample Tag: MW-26_101618

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/20/18 23:44, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.03

Sample Tag: MW-27_101618

Collected Date/Time: 10/16/2018 11:20

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:04, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S95661.03 (continued)

Sample Tag: MW-27_101618

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:04, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.04

Sample Tag: MW-19_101618

Collected Date/Time: 10/16/2018 12:35

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:24, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S95661.04 (continued)

Sample Tag: MW-19_101618

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:24, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.05

Sample Tag: MW-20_101618

Collected Date/Time: 10/16/2018 13:25

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:43, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S95661.05 (continued)

Sample Tag: MW-20_101618

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 00:43, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.06

Sample Tag: DUP-01

Collected Date/Time: 10/16/2018 00:01

Matrix: Groundwater

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:03, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	68	1		ug/L	1	71-43-2	
1,2-Dichloroethane	5	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	1	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.06 (continued)

Sample Tag: DUP-01

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:03, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S95661.07

Sample Tag: Trip Blank

Collected Date/Time: 10/16/2018 00:01

Matrix: Water

COC Reference: 112207

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:23, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S95661.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:23, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S95661

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: B0064486.2018.00003

Submitted: 10/17/2018 08:31 Login User: MMC

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904

FAX: 248-994-2241

Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.6
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



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 1

112207

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <i>Brad Saunders</i>	
COMPANY <i>Arcadis</i>	
ADDRESS <i>28550 Cabot Dr #500</i>	
CITY <i>Novi</i>	STATE <i>MI</i>
PHONE NO. <i>517-974-4441</i>	FAX NO. <i>517-974-4441</i>
E-MAIL ADDRESS <i>brad.saunders@arcadis.com</i>	

CONTACT NAME <i>[Signature]</i>	
COMPANY	
ADDRESS	
CITY	STATE
PHONE NO.	E-MAIL ADDRESS

PROJECT NO./NAME <i>B0064486-2018.00003</i>	SAMPLER(S) - PLEASE PRINT/SIGN <i>Daniel Stachurski</i>
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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)	
--	--

# Containers & Preservatives	
Certifications	
☐ OHIO VAP ☐ Drinking Water	
☐ DoD ☐ NPDES	
Project Locations	
☐ Detroit ☐ New York	
☐ Other	
Special Instructions	

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives									
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER			
95661.01	10/16/18	9:20	MW-25-101618	GW	3		3						X		
02		10:10	MW-26-101618										X		
03		11:20	MW-27-101618										X		
04		12:35	MW-19-101618										X		
05		13:25	MW-20-101618										X		
06			DUP-01										X		
07			Trip Blank		1		1						X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION <i>Daniel Stachurski</i>	DATE <i>10/17/18</i>	TIME <i>8:31</i>
RECEIVED BY: SIGNATURE/ORGANIZATION <i>M. Chilcote</i>	DATE <i>10/17/18</i>	TIME <i>8:31</i>

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 <i>4.6</i>

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

Rev. 5/18/12

April 9, 2019

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S00785.01(01)
Generated on 04/12/2019

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX: 248-994-2241
Email: brad.saunders@arcadis.com

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): S00785.01-S00785.07
Project: RACER Pontiac
Collected Date: 04/09/2019
Submitted Date/Time: 04/11/2019 08:15
Sampled by: Daniel Stockard
P.O. #: PO

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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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S00785.01	MW-25_040919	Groundwater	04/09/19 09:25
S00785.02	MW-26_040919	Groundwater	04/09/19 10:20
S00785.03	MW-27_040919	Groundwater	04/09/19 11:15
S00785.04	DUP01	Groundwater	04/09/19 00:01
S00785.05	MW-19_040919	Groundwater	04/09/19 12:15
S00785.06	MW-20_040919	Groundwater	04/09/19 13:10
S00785.07	Trip Blank	Water	04/09/19 00:01



Analytical Laboratory Report

Lab Sample ID: S00785.01

Sample Tag: MW-25_040919

Collected Date/Time: 04/09/2019 09:25

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:04, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.01 (continued)

Sample Tag: MW-25_040919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:04, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.02

Sample Tag: MW-26_040919

Collected Date/Time: 04/09/2019 10:20

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:23, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.02 (continued)

Sample Tag: MW-26_040919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:23, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.03

Sample Tag: MW-27_040919

Collected Date/Time: 04/09/2019 11:15

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:42, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.03 (continued)

Sample Tag: MW-27_040919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 01:42, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.04

Sample Tag: DUP01

Collected Date/Time: 04/09/2019 00:01

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:01, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	1	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	39	1		ug/L	1	71-43-2	
1,2-Dichloroethane	2	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.04 (continued)

Sample Tag: DUP01

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:01, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.05

Sample Tag: MW-19_040919

Collected Date/Time: 04/09/2019 12:15

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:20, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.05 (continued)

Sample Tag: MW-19_040919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:20, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.06

Sample Tag: MW-20_040919

Collected Date/Time: 04/09/2019 13:10

Matrix: Groundwater

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:38, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.06 (continued)

Sample Tag: MW-20_040919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/12/19 02:38, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S00785.07

Sample Tag: Trip Blank

Collected Date/Time: 04/09/2019 00:01

Matrix: Water

COC Reference: 117193

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/12/19 14:00	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/19 20:18, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S00785.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/19 20:18, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S00785

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER Pontiac

Submitted:04/11/2019 08:15 Login User: SRS

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

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

Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.1
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☐ Yes ☒ No ☐ N/A	COC adequately filled out	Collection date not listed on each line
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <i>Brad Saunders</i>			
COMPANY <i>Arcadis</i>			
ADDRESS <i>28550 Cabot Dr #500</i>			
CITY <i>Novi</i>		STATE <i>MI</i>	ZIP CODE <i>48377</i>
PHONE NO.	FAX NO.	P.O. NO.	
E-MAIL ADDRESS <i>brad.saunders@arcanis.com</i>		QUOTE NO.	

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Pontiac	SAMPLER(S) - PLEASE PRINT/SIGN NAME Kimberly Starnes Daniel Fisher
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER _____	

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

Containers & Preservatives

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☐ Other _____

Special Instructions

[illegible]

RELINQUISHED BY:	<i>Daniel Storham</i>	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Arcaadis</i>	4/9/19	16:20
RECEIVED BY:	<i>Novi Fridge</i>	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Arcaadis</i>	4/9/19	16:20
RELINQUISHED BY:	<i>Daniel Storham</i>	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Arcaadis</i>	4-10-19	1055
RECEIVED BY:	<i>me</i>	DATE	TIME
SIGNATURE/ORGANIZATION		4-10-19	1055

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE		TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE		TIME
SEAL NO.	SEAL IN AC	INITIALS	NOTES	TEMP. ON ARRIVAL
SEAL NO.	SEAL IN AC	INITIALS	NOTES	TEMP. ON ARRIVAL

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

July 12, 2019

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S04505.01(01)
Generated on 07/24/2019

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX: 248-994-2241
Email: brad.saunders@arcadis.com

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): S04505.01-S04505.07
Project: RACER EDC
Collected Date(s): 07/12/2019
Submitted Date/Time: 07/15/2019 08:15
Sampled by: Daniel Stockard
P.O. #: B0064486.2019

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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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S04505.01	MW-25_071219	Groundwater	07/12/19 08:30
S04505.02	MW-26_071219	Groundwater	07/12/19 09:35
S04505.03	MW-27_071219	Groundwater	07/12/19 10:40
S04505.04	MW-19_071219	Groundwater	07/12/19 11:50
S04505.05	MW-20_071219	Groundwater	07/12/19 12:45
S04505.06	Dup-01	Groundwater	07/12/19 00:01
S04505.07	Trip Blank	Water	07/12/19 00:01



Analytical Laboratory Report

Lab Sample ID: S04505.01

Sample Tag: MW-25_071219

Collected Date/Time: 07/12/2019 08:30

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 13:42, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S04505.01 (continued)

Sample Tag: MW-25_071219

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 13:42, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.02

Sample Tag: MW-26_071219

Collected Date/Time: 07/12/2019 09:35

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:01, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	53	1		ug/L	1	71-43-2	
1,2-Dichloroethane	3	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.02 (continued)

Sample Tag: MW-26_071219

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:01, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.03

Sample Tag: MW-27_071219

Collected Date/Time: 07/12/2019 10:40

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:20, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S04505.03 (continued)

Sample Tag: MW-27_071219

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:20, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.04

Sample Tag: MW-19_071219

Collected Date/Time: 07/12/2019 11:50

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:39, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S04505.04 (continued)

Sample Tag: MW-19_071219

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:39, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.05

Sample Tag: MW-20_071219

Collected Date/Time: 07/12/2019 12:45

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:59, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S04505.05 (continued)

Sample Tag: MW-20_071219

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 14:59, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.06

Sample Tag: Dup-01

Collected Date/Time: 07/12/2019 00:01

Matrix: Groundwater

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 15:18, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	53	1		ug/L	1	71-43-2	
1,2-Dichloroethane	3	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.06 (continued)

Sample Tag: Dup-01

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 15:18, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S04505.07

Sample Tag: Trip Blank

Collected Date/Time: 07/12/2019 00:01

Matrix: Water

COC Reference: 118147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	07/17/19 11:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 12:24, Analyst: JML

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



Analytical Laboratory Report

Lab Sample ID: S04505.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 07/16/19 12:24, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S04505

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER EDC

Submitted:07/15/2019 08:15 Login User: MMC

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

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

Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.4
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <i>Brad Saunders</i>	
COMPANY <i>Arca dis</i>	
ADDRESS <i>28550 Cabot Dr.</i>	
CITY <i>Novi</i>	STATE <i>MI</i> ZIP CODE <i>48377</i>
PHONE NO.	FAX NO.
P.O. NO. <i>B0064186.20M</i>	
E-MAIL ADDRESS <i>brad.saunders@arcadis.com</i>	QUOTE NO.

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)	
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MATRIX CODE:	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WPIE	A=AIR
					W=WASTE

<i>Erie Harbor</i>								Certifications
								☐ OHIO VAP ☐ Drinking Water
								☐ DoD ☐ NPDES
# Containers & Preservatives								Project Locations
NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	☐ Detroit ☐ New York	
							☐ Other _____	
							Special Instructions	

[illegible]

A hand-drawn graph on grid paper. The graph consists of two vertical lines. The first line is labeled '3' at the top and the second line is labeled 'X' at the top. Both lines have a horizontal base at the bottom.

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE 7/15/19	TIME 9:15
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE 7/15/19	TIME 08:55
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.4
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

October 4, 2019

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S07862.01(01)
Generated on 10/10/2019

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX: 248-994-2241
Email: brad.saunders@arcadis.com

Report produced by

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

Report Summary

Lab Sample ID(s): S07862.01-S07862.07
Project: 30006873.00003 RACER EDC
Collected Date(s): 10/04/2019
Submitted Date/Time: 10/04/2019 15:00
Sampled by: Daniel Stockard
P.O. #: 30006873.00003

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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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S07862.01	MW-25_100419	Groundwater	10/04/19 08:45
S07862.02	MW-26_100419	Groundwater	10/04/19 09:40
S07862.03	MW-27_100419	Groundwater	10/04/19 10:35
S07862.04	Dup-01	Groundwater	10/04/19 00:01
S07862.05	MW-19_100419	Groundwater	10/04/19 11:25
S07862.06	MW-20_100419	Groundwater	10/04/19 12:10
S07862.07	Trip Blank	Water	10/04/19 00:01



Analytical Laboratory Report

Lab Sample ID: S07862.01

Sample Tag: MW-25_100419

Collected Date/Time: 10/04/2019 08:45

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/09/19 13:27, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.01 (continued)

Sample Tag: MW-25_100419

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/09/19 13:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.02

Sample Tag: MW-26_100419

Collected Date/Time: 10/04/2019 09:40

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/09/19 13:46, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.02 (continued)

Sample Tag: MW-26_100419

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/09/19 13:46, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.03

Sample Tag: MW-27_100419

Collected Date/Time: 10/04/2019 10:35

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 03:57, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.03 (continued)

Sample Tag: MW-27_100419

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 03:57, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.04

Sample Tag: Dup-01

Collected Date/Time: 10/04/2019 00:01

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:16, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.04 (continued)

Sample Tag: Dup-01

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:16, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.05

Sample Tag: MW-19_100419

Collected Date/Time: 10/04/2019 11:25

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:35, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.05 (continued)

Sample Tag: MW-19_100419

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:35, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.06

Sample Tag: MW-20_100419

Collected Date/Time: 10/04/2019 12:10

Matrix: Groundwater

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:55, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.06 (continued)

Sample Tag: MW-20_100419

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 04:55, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S07862.07

Sample Tag: Trip Blank

Collected Date/Time: 10/04/2019 00:01

Matrix: Water

COC Reference: 124422

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/08/19 12:10	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 00:05, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S07862.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/08/19 00:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S07862

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30006873.00003 RACER EDC

Submitted: 10/04/2019 15:00 Login User: MMC

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

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

Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.1
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CONTACT NAME Brad Saunders			
COMPANY Arcadis			
ADDRESS 28550 Cabot Dr. Ste 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 1		FAX NO.	P.O. NO.
E-MAIL ADDRESS brad.saunders@arcadis.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

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

INVOICE TO

PROJECT NO./NAME	30006873 00003 RACERDC	SAMPLER(S) - PLEASE PRINT/SIGN NAME	Daniel Stockard
TURNAROUND TIME REQUIRED	☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS	☒ STANDARD	☐ OTHER
DELIVERABLES REQUIRED	☒ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV	☐ EDD	☐ OTHER

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York
☐ Other _____

Special Instructions

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

Containers & Preservatives

[illegible]

RELINQUISHED BY:	<i>Samuel Abraham Rodriguez</i>	DATE	TIME
SIGNATURE/ORGANIZATION		10/2/19	15:00
RECEIVED BY:	<i>M. Calero</i>	DATE	TIME
SIGNATURE/ORGANIZATION		10/4/19	1500
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	5.1	

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

Rev. 5.18.12

December 8, 2020

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S19850.01(01)
Generated on 12/14/2020

Report to
Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 C:517-974-4441 FAX:
Email: brad.saunders@arcadis.com

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): S19850.01-S19850.07
Project: RACER Pontiac EDC
Collected Date(s): 12/08/2020
Submitted Date/Time: 12/09/2020 16:00
Sampled by: S. Johnson
P.O. #: 30042809.00003

Table of Contents

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- General Report Notes (Page 2)
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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)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical 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
Pennsylvania DEP	#68-05884

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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S19850.01	MW-25_120820	Groundwater	12/08/20 11:55
S19850.02	MW-26_120820	Groundwater	12/08/20 13:00
S19850.03	MW-27_120820	Groundwater	12/08/20 14:05
S19850.04	MW-20_120820	Groundwater	12/08/20 15:05
S19850.05	MW-19_120820	Groundwater	12/08/20 16:05
S19850.06	DUP-01_120820	Groundwater	12/08/20 00:01
S19850.07	Trip Blank	Liquid	12/08/20 00:01



Analytical Laboratory Report

Lab Sample ID: S19850.01

Sample Tag: MW-25_120820

Collected Date/Time: 12/08/2020 11:55

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 08:35, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.01 (continued)

Sample Tag: MW-25_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 08:35, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.02

Sample Tag: MW-26_120820

Collected Date/Time: 12/08/2020 13:00

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 08:58, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	16	1		ug/L	1	71-43-2	
1,2-Dichloroethane	3	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.02 (continued)

Sample Tag: MW-26_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 08:58, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.03

Sample Tag: MW-27_120820

Collected Date/Time: 12/08/2020 14:05

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 09:21, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.03 (continued)

Sample Tag: MW-27_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 09:21, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.04

Sample Tag: MW-20_120820

Collected Date/Time: 12/08/2020 15:05

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 09:44, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.04 (continued)

Sample Tag: MW-20_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 09:44, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.05

Sample Tag: MW-19_120820

Collected Date/Time: 12/08/2020 16:05

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 10:07, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.05 (continued)

Sample Tag: MW-19_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 10:07, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.06

Sample Tag: DUP-01_120820

Collected Date/Time: 12/08/2020 00:01

Matrix: Groundwater

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 10:31, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.06 (continued)

Sample Tag: DUP-01_120820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 10:31, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S19850.07

Sample Tag: Trip Blank

Collected Date/Time: 12/08/2020 00:01

Matrix: Liquid

COC Reference: 115502

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/14/20 11:50	KAG	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 05:06, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S19850.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 12/12/20 05:06, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S19850

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER Pontiac EDC

Submitted: 12/09/2020 16:00 Login User: REJ

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX:
Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 3.2
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



115502

INVOICE TO

CONTACT NAME NO. BRAD SANDERS		TATE		CONTACT NAME S ☐ SAME	
COMPANY ARCADIS				COMPANY	
ADD 28550 CANT DR STE 500		T. SIGNATURE <i>[Signature]</i>		ADDRESS <i>[Signature]</i>	
CITY MI		ZIP CODE 48177		CITY TATE ZIP CODE	
PHONE		FAX NO.		PHONE NO.	
E-MAIL ADDRESS BRAD.SANDERS@ARCADIS.COM		QUOTE NO.		E-MAIL ADDRESS	
PROJECT NO./NAME RACER PNC		SAMPLER(S) - PLEASE PRINT 5 JOHNSON		ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)	
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER					
DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER					
MATRIX GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID CODE: 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	
19850-01		12/20/15		WW-25-120820	
12		1300		WW-26-120820	
13		1405		WW-27-120820	
14		1505		WW-28-120820	

March 8, 2021

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S22029.01(01)
Generated on 03/10/2021

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 C:517-974-4441 FAX:
Email: brad.saunders@arcadis.com

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): S22029.01-S22029.07
Project: RACER EDC 30076014.00003
Collected Date(s): 03/08/2021
Submitted Date/Time: 03/08/2021 14:45
Sampled by: S. Johnson
P.O. #: 30076014.00003

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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)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical 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
Pennsylvania DEP	#68-05884

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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S22029.01	MW-25_030821	Groundwater	03/08/21 09:20
S22029.02	MW-26_030821	Groundwater	03/08/21 10:15
S22029.03	MW-27_030821	Groundwater	03/08/21 11:05
S22029.04	MW-19_030821	Groundwater	03/08/21 12:00
S22029.05	MW-20_030821	Groundwater	03/08/21 12:55
S22029.06	DUP-01_030821	Groundwater	03/08/21 00:01
S22029.07	Trip Blank	Liquid	03/08/21 00:01



Analytical Laboratory Report

Lab Sample ID: S22029.01

Sample Tag: MW-25_030821

Collected Date/Time: 03/08/2021 09:20

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 13:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.01 (continued)

Sample Tag: MW-25_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 13:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.02

Sample Tag: MW-26_030821

Collected Date/Time: 03/08/2021 10:15

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:10, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	14	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.02 (continued)

Sample Tag: MW-26_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:10, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	1	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.03

Sample Tag: MW-27_030821

Collected Date/Time: 03/08/2021 11:05

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:33, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.03 (continued)

Sample Tag: MW-27_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:33, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	1	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.04

Sample Tag: MW-19_030821

Collected Date/Time: 03/08/2021 12:00

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.04 (continued)

Sample Tag: MW-19_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 14:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.05

Sample Tag: MW-20_030821

Collected Date/Time: 03/08/2021 12:55

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 15:19, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.05 (continued)

Sample Tag: MW-20_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 15:19, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.06

Sample Tag: DUP-01_030821

Collected Date/Time: 03/08/2021 00:01

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 15:42, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	15	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.06 (continued)

Sample Tag: DUP-01_030821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 15:42, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	1	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S22029.07

Sample Tag: Trip Blank

Collected Date/Time: 03/08/2021 00:01

Matrix: Liquid

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/10/21 09:15	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 13:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S22029.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/09/21 13:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		

Merit Laboratories Login Checklist

Lab Set ID:S22029

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER EDC 30076014.00003

Submitted:03/08/2021 14:45 Login User: MMC

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX:
Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.3
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CONTACT NAME Brad Saunders			
COMPANY Arcadis			
ADDRESS 28550 Cabot Dr. Ste. 500			
CITY Novi			STATE MI
			ZIP CODE 48377
PHONE NO. 517-974-4441		FAX NO.	
		PO NO.	
E-MAIL ADDRESS Brad.Saunders@arcadis.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

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

INVOICE TO

PROJECT NO./NAME	RACER EDC 30076014.00003	SAMPLER(S) - PLEASE PRINT/SIGN NAME	S. Johnson
------------------	--------------------------	-------------------------------------	------------

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 SL=SLUDGE	WW=WASTEWATER DW=DRINKING WATER	S=SOIL O=OIL	L=LIQUID WP=WPIE	SD=SOLID A=AIR W=WASTE
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Containers & Preservatives

[illegible]

SW5030C/8260C

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☒ Other Pontiac, MI

Special Instructions

RELINQUISHED BY SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME
RELINQUISHED BY SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES	TEMP ON ARRIVAL 2.3
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS		

June 8, 2021

Groundwater Sampling Event



Analytical Laboratory Report

Report ID: S25032.01(01)+QC01
Generated on 06/10/2021

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 C:517-974-4441 FAX:
Email: brad.saunders@arcadis.com

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): S25032.01-S25032.07
Project: Pontiac EDC / 30076014
Collected Date(s): 06/08/2021
Submitted Date/Time: 06/08/2021 14:00
Sampled by: Seth Turner
P.O. #: 30076014

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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)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical 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
Pennsylvania DEP	#68-05884

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
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S25032.01	MW-27_060821	Groundwater	06/08/21 09:10
S25032.02	MW-26_060821	Groundwater	06/08/21 10:15
S25032.03	MW-25_060821	Groundwater	06/08/21 11:15
S25032.04	MW-20_060821	Groundwater	06/08/21 12:10
S25032.05	MW-19_060821	Groundwater	06/08/21 13:10
S25032.06	Dup-1_060821	Groundwater	06/08/21 00:01
S25032.07	Trip Blank	Water	06/08/21 00:01



Analytical Laboratory Report

Lab Sample ID: S25032.01

Sample Tag: MW-27_060821

Collected Date/Time: 06/08/2021 09:10

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 16:38, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.01 (continued)

Sample Tag: MW-27_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 16:38, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.02

Sample Tag: MW-26_060821

Collected Date/Time: 06/08/2021 10:15

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:01, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	24	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	3	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.02 (continued)

Sample Tag: MW-26_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:01, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	1	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.03

Sample Tag: MW-25_060821

Collected Date/Time: 06/08/2021 11:15

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.03 (continued)

Sample Tag: MW-25_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.04

Sample Tag: MW-20_060821

Collected Date/Time: 06/08/2021 12:10

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.04 (continued)

Sample Tag: MW-20_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 17:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.05

Sample Tag: MW-19_060821

Collected Date/Time: 06/08/2021 13:10

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 18:10, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.05 (continued)

Sample Tag: MW-19_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 18:10, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.06

Sample Tag: Dup-1_060821

Collected Date/Time: 06/08/2021 00:01

Matrix: Groundwater

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 18:34, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	20	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	3	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.06 (continued)

Sample Tag: Dup-1_060821

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 18:34, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	1	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S25032.07

Sample Tag: Trip Blank

Collected Date/Time: 06/08/2021 00:01

Matrix: Water

COC Reference: 146016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/21 10:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 15:29, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S25032.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/09/21 15:29, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Quality Control Report

Report ID: S25032.01(01)+QC01
Generated on 06/10/2021

Report to

Attention: Brad Saunders
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: 810-225-1904 C:517-974-4441 FAX:

Report Summary

Lab Sample ID(s): S25032.01-S25032.07
Project: Pontiac EDC / 30076014
Submitted Date/Time: 06/08/2021 14:00
Sampled by: Seth Turner
P.O. #: 30076014

QC Report Sections

Cover Page (Page 20)
Analysis Summary (Pages 21-27)
Prep Batch Summary (Page 28)
Surrogates per Lab Sample (Pages 29-35)
Surrogates per QC Sample (Page 36)
Internal Standards per Lab Sample (Pages 37-43)
Internal Standards per QC Sample (Page 44)
Batch QC Results (Pages 45-49)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S25032.01

Sample Tag: MW-27_060821

Collected Date/Time: 06/08/2021 09:10

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 16:38	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.02

Sample Tag: MW-26_060821

Collected Date/Time: 06/08/2021 10:15

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:01	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.03

Sample Tag: MW-25_060821

Collected Date/Time: 06/08/2021 11:15

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:24	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.04

Sample Tag: MW-20_060821

Collected Date/Time: 06/08/2021 12:10

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:47	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.05

Sample Tag: MW-19_060821

Collected Date/Time: 06/08/2021 13:10

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 18:10	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.06

Sample Tag: Dup-1_060821

Collected Date/Time: 06/08/2021 00:01

Matrix: Groundwater

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 18:34	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S25032.07

Sample Tag: Trip Blank

Collected Date/Time: 06/08/2021 00:01

Matrix: Water

COC Reference: 146016

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 15:29	210609A7	VF210609W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF210609W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S25032.01	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 16:38	210609A7
S25032.02	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:01	210609A7
S25032.03	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:24	210609A7
S25032.04	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 17:47	210609A7
S25032.05	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 18:10	210609A7
S25032.06	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 18:34	210609A7
S25032.07	Volatile Organics - DEQ List	SW5030C/8260C	06/09/21 15:29	210609A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.01

Sample Tag: MW-27_060821

Collected Date/Time: 06/08/2021 09:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 16:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.2	80.0	124.0
1,2-Dichloroethane-D4		88.5	72.0	125.0
Toluene-D8		94.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.02

Sample Tag: MW-26_060821

Collected Date/Time: 06/08/2021 10:15

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.8	80.0	124.0
1,2-Dichloroethane-D4		92.0	72.0	125.0
Toluene-D8		93.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.03

Sample Tag: MW-25_060821

Collected Date/Time: 06/08/2021 11:15

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:24, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.9	80.0	124.0
1,2-Dichloroethane-D4		95.3	72.0	125.0
Toluene-D8		95.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.04

Sample Tag: MW-20_060821

Collected Date/Time: 06/08/2021 12:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:47, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.7	80.0	124.0
1,2-Dichloroethane-D4		91.8	72.0	125.0
Toluene-D8		96.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.05

Sample Tag: MW-19_060821

Collected Date/Time: 06/08/2021 13:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 18:10, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.0	80.0	124.0
1,2-Dichloroethane-D4		95.6	72.0	125.0
Toluene-D8		95.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.06

Sample Tag: Dup-1_060821

Collected Date/Time: 06/08/2021 00:01

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 18:34, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.2	80.0	124.0
1,2-Dichloroethane-D4		95.6	72.0	125.0
Toluene-D8		94.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S25032.07

Sample Tag: Trip Blank

Collected Date/Time: 06/08/2021 00:01

Matrix: Water

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 15:29, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.0	80.0	124.0
1,2-Dichloroethane-D4		91.1	72.0	125.0
Toluene-D8		94.3	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF210609W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 210609A7.BLKW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 14:20, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.0	80.0	124.0
1,2-Dichloroethane-D4		91.8	72.0	125.0
Toluene-D8		93.4	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:10, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.5	80.0	124.0
1,2-Dichloroethane-D4		96.2	72.0	125.0
Toluene-D8		95.5	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210609A7.LCSDW09A, Parent Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:34, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.8	80.0	124.0
1,2-Dichloroethane-D4		90.6	72.0	125.0
Toluene-D8		95.3	89.0	112.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.01

Sample Tag: MW-27_060821

Collected Date/Time: 06/08/2021 09:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 16:38, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		88.1	50.0	200.0
1,4-Difluorobenzene		88.4	50.0	200.0
Chlorobenzene-D5		89.4	50.0	200.0
1,4-Dichlorobenzene-D4		86.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.02

Sample Tag: MW-26_060821

Collected Date/Time: 06/08/2021 10:15

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:01, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		87.8	50.0	200.0
1,4-Difluorobenzene		89.2	50.0	200.0
Chlorobenzene-D5		89.2	50.0	200.0
1,4-Dichlorobenzene-D4		89.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.03

Sample Tag: MW-25_060821

Collected Date/Time: 06/08/2021 11:15

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:24, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.2	50.0	200.0
1,4-Difluorobenzene		99.4	50.0	200.0
Chlorobenzene-D5		101.6	50.0	200.0
1,4-Dichlorobenzene-D4		100.1	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.04

Sample Tag: MW-20_060821

Collected Date/Time: 06/08/2021 12:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 17:47, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.0	50.0	200.0
1,4-Difluorobenzene		96.9	50.0	200.0
Chlorobenzene-D5		99.2	50.0	200.0
1,4-Dichlorobenzene-D4		96.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.05

Sample Tag: MW-19_060821

Collected Date/Time: 06/08/2021 13:10

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 18:10, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.4	50.0	200.0
1,4-Difluorobenzene		97.4	50.0	200.0
Chlorobenzene-D5		100.4	50.0	200.0
1,4-Dichlorobenzene-D4		100.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.06

Sample Tag: Dup-1_060821

Collected Date/Time: 06/08/2021 00:01

Matrix: Groundwater

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 18:34, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		89.1	50.0	200.0
1,4-Difluorobenzene		91.3	50.0	200.0
Chlorobenzene-D5		92.9	50.0	200.0
1,4-Dichlorobenzene-D4		94.1	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S25032.07

Sample Tag: Trip Blank

Collected Date/Time: 06/08/2021 00:01

Matrix: Water

COC Reference: 146016

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210609A7, Run Date: 06/09/2021 15:29, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		91.9	50.0	200.0
1,4-Difluorobenzene		92.5	50.0	200.0
Chlorobenzene-D5		93.3	50.0	200.0
1,4-Dichlorobenzene-D4		92.0	50.0	200.0

Organics - Volatiles, Prep Batch ID: VF210609W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 210609A7.BLKW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 14:20, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.0	50.0	200.0
1,4-Difluorobenzene		99.9	50.0	200.0
Chlorobenzene-D5		99.9	50.0	200.0
1,4-Dichlorobenzene-D4		101.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:10, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.8	50.0	200.0
1,4-Difluorobenzene		104.8	50.0	200.0
Chlorobenzene-D5		106.3	50.0	200.0
1,4-Dichlorobenzene-D4		105.7	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210609A7.LCSDW09A, Parent Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:34, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.5	50.0	200.0
1,4-Difluorobenzene		103.9	50.0	200.0
Chlorobenzene-D5		104.9	50.0	200.0
1,4-Dichlorobenzene-D4		103.2	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210609W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 210609A7.BLKW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 14:20, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Chloroform		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210609W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 210609A7.BLKW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 14:20, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Toluene		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:10, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		90.6	29.9	161.5
Acrylonitrile		102.9	69.9	128.9
2-Butanone (MEK)		98.3	44.0	134.4
Benzene		98.5	79.9	124.9
n-Butylbenzene		105.7	80.0	133.3
Bromobenzene		97.9	78.7	124.6
Bromochloromethane		94.7	78.2	120.8
Bromodichloromethane		100.8	80.4	128.2
Bromoform		102.6	69.4	128.0
Bromomethane		95.6	56.8	151.3
sec-Butylbenzene		102.9	77.4	129.8
tert-Butylbenzene		98.3	80.7	128.9
Carbon disulfide		94.9	63.8	137.4
Carbon tetrachloride		95.3	72.6	133.0
Chlorobenzene		99.2	79.2	122.7
Chloroethane		97.3	53.4	149.4
Chloroform		93.5	78.4	124.0
Chloromethane		100.3	23.8	166.5
1,1-Dichloroethane		96.1	71.5	126.2
1,1-Dichloroethene		91.5	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF210609W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:10, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		101.8	21.2	189.4
1,2-Dibromoethane		100.1	70.3	133.7
1,2-Dichlorobenzene		102.6	10.0	166.2
1,2-Dichloroethane		93.6	76.0	126.3
1,2-Dichloropropane		102.1	78.6	126.4
1,3-Dichlorobenzene		102.5	77.0	131.3
1,4-Dichlorobenzene		103.4	20.7	137.7
cis-1,2-Dichloroethene		94.6	76.6	122.1
cis-1,3-Dichloropropene		104.3	79.8	129.9
Dibromochloromethane		106.2	74.6	127.2
Dibromomethane		97.5	76.9	122.1
Dichlorodifluoromethane		77.4	10.0	222.8
Diethyl ether		100.0	67.4	121.2
trans-1,2-Dichloroethene		95.6	73.6	129.3
trans-1,3-Dichloropropene		101.7	74.0	131.3
trans-1,4-Dichloro-2-butene		99.6	68.6	135.4
Ethylbenzene		99.6	79.5	129.1
2-Hexanone		89.1	55.4	136.9
Hexachloroethane		111.5	23.8	138.1
p-Isopropyltoluene		102.3	79.8	137.5
Isopropylbenzene		98.1	74.4	121.5
2-Methylnaphthalene		99.2	25.5	165.5
4-Methyl-2-pentanone (MIBK)		91.5	71.6	125.2
tert-Methyl butyl ether (MTBE)		91.5	73.2	122.4
Methyl iodide		94.9	68.8	116.4
Methylene chloride		92.8	73.3	121.1
Naphthalene		101.2	32.9	135.8
n-Propylbenzene		100.5	82.0	130.7
Styrene		100.0	69.5	126.7
1,1,1,2-Tetrachloroethane		103.7	80.3	128.2
1,1,1-Trichloroethane		89.5	79.4	130.9
1,1,2,2-Tetrachloroethane		97.7	79.8	126.3
1,1,2-Trichloroethane		99.1	78.7	123.1
1,2,3-Trichlorobenzene		101.4	75.4	131.4
1,2,3-Trichloropropane		95.2	78.3	138.8
1,2,3-Trimethylbenzene		104.2	76.3	124.2
1,2,4-Trichlorobenzene		102.8	27.4	143.4
1,2,4-Trimethylbenzene		98.8	81.4	130.8
1,3,5-Trimethylbenzene		98.7	81.3	128.9
Tetrachloroethene		103.1	74.5	124.5
Tetrahydrofuran		94.2	59.0	117.9
Toluene		96.4	79.8	124.5
Trichloroethene		95.6	79.7	124.2
Trichlorofluoromethane		89.2	59.7	151.8
Vinyl chloride		94.4	43.5	149.1
o-Xylene		99.7	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210609W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:10, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		98.1	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210609A7.LCSDW09A, Parent Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:34, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		91.4	29.9	161.5	0.8	30.0
Acrylonitrile		98.2	69.9	128.9	4.6	30.0
2-Butanone (MEK)		95.6	44.0	134.4	2.7	30.0
Benzene		90.0	79.9	124.9	9.0	30.0
n-Butylbenzene		97.8	80.0	133.3	7.7	30.0
Bromobenzene		91.0	78.7	124.6	7.3	30.0
Bromochloromethane		88.1	78.2	120.8	7.2	30.0
Bromodichloromethane		92.4	80.4	128.2	8.7	30.0
Bromoform		97.8	69.4	128.0	4.8	30.0
Bromomethane		87.3	56.8	151.3	9.1	30.0
sec-Butylbenzene		96.4	77.4	129.8	6.4	30.0
tert-Butylbenzene		90.3	80.7	128.9	8.5	30.0
Carbon disulfide		85.3	63.8	137.4	10.7	30.0
Carbon tetrachloride		86.4	72.6	133.0	9.8	30.0
Chlorobenzene		91.6	79.2	122.7	8.0	30.0
Chloroethane		87.8	53.4	149.4	10.3	30.0
Chloroform		84.9	78.4	124.0	9.6	30.0
Chloromethane		91.3	23.8	166.5	9.4	30.0
1,1-Dichloroethane		87.6	71.5	126.2	9.3	30.0
1,1-Dichloroethene		82.1	69.6	139.4	10.8	30.0
1,2-Dibromo-3-chloropropane		99.4	21.2	189.4	2.4	30.0
1,2-Dibromoethane		95.0	70.3	133.7	5.2	30.0
1,2-Dichlorobenzene		96.0	10.0	166.2	6.6	30.0
1,2-Dichloroethane		87.2	76.0	126.3	7.1	30.0
1,2-Dichloropropane		94.2	78.6	126.4	8.1	30.0
1,3-Dichlorobenzene		95.5	77.0	131.3	7.0	30.0
1,4-Dichlorobenzene		97.0	20.7	137.7	6.4	30.0
cis-1,2-Dichloroethene		86.5	76.6	122.1	9.0	30.0
cis-1,3-Dichloropropene		96.7	79.8	129.9	7.6	30.0
Dibromochloromethane		97.5	74.6	127.2	8.5	30.0
Dibromomethane		92.0	76.9	122.1	5.8	30.0
Dichlorodifluoromethane		70.7	10.0	222.8	9.1	30.0
Diethyl ether		92.9	67.4	121.2	7.4	30.0
trans-1,2-Dichloroethene		86.5	73.6	129.3	9.9	30.0
trans-1,3-Dichloropropene		94.8	74.0	131.3	7.1	30.0
trans-1,4-Dichloro-2-butene		96.0	68.6	135.4	3.6	30.0
Ethylbenzene		91.5	79.5	129.1	8.6	30.0
2-Hexanone		88.4	55.4	136.9	0.8	30.0
Hexachloroethane		102.8	23.8	138.1	8.2	30.0
p-Isopropyltoluene		95.6	79.8	137.5	6.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210609W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 210609A7.LCSDW09A, Parent Sample ID: 210609A7.LCSW09A

Run in Batch: 210609A7, Run Date: 06/09/2021 13:34, Prep Date: 06/09/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		90.7	74.4	121.5	7.8	30.0
2-Methylnaphthalene		96.7	25.5	165.5	2.5	30.0
4-Methyl-2-pentanone (MIBK)		89.1	71.6	125.2	2.7	30.0
tert-Methyl butyl ether (MTBE)		85.4	73.2	122.4	6.9	30.0
Methyl iodide		86.2	68.8	116.4	9.6	30.0
Methylene chloride		84.0	73.3	121.1	9.9	30.0
Naphthalene		97.7	32.9	135.8	3.6	30.0
n-Propylbenzene		92.3	82.0	130.7	8.5	30.0
Styrene		91.8	69.5	126.7	8.6	30.0
1,1,1,2-Tetrachloroethane		95.5	80.3	128.2	8.2	30.0
1,1,1-Trichloroethane		81.7	79.4	130.9	9.1	30.0
1,1,2,2-Tetrachloroethane		93.7	79.8	126.3	4.2	30.0
1,1,2-Trichloroethane		91.9	78.7	123.1	7.6	30.0
1,2,3-Trichlorobenzene		97.6	75.4	131.4	3.9	30.0
1,2,3-Trichloropropane		90.8	78.3	138.8	4.8	30.0
1,2,3-Trimethylbenzene		97.4	76.3	124.2	6.7	30.0
1,2,4-Trichlorobenzene		96.6	27.4	143.4	6.1	30.0
1,2,4-Trimethylbenzene		91.2	81.4	130.8	8.0	30.0
1,3,5-Trimethylbenzene		91.1	81.3	128.9	8.0	30.0
Tetrachloroethene		100.2	74.5	124.5	2.8	30.0
Tetrahydrofuran		94.5	59.0	117.9	0.3	30.0
Toluene		88.5	79.8	124.5	8.6	30.0
Trichloroethene		87.3	79.7	124.2	9.0	30.0
Trichlorofluoromethane		80.7	59.7	151.8	9.9	30.0
Vinyl chloride		85.9	43.5	149.1	9.5	30.0
o-Xylene		91.4	80.2	131.0	8.6	30.0
p,m-Xylene		90.2	79.4	132.2	8.4	30.0

Merit Laboratories Login Checklist

Lab Set ID:S25032

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: Pontiac EDC / 30076014

Submitted:06/08/2021 14:00 Login User: SRS

Attention: Brad Saunders

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1904 FAX:
Email: brad.saunders@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.2
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Appendix C

Public Highway Institutional Control

Saunders, Brad

From: TrackingUpdates@fedex.com
Sent: Wednesday, March 17, 2021 12:31 PM
To: Saunders, Brad
Subject: FedEx Shipment 773171147560: Your package has been delivered



Hi. Your package was
delivered Wed, 03/17/2021 at
12:29pm.



Delivered to 47450 WOODWARD AVE, PONTIAC, MI 48342
Received by D.WLSON

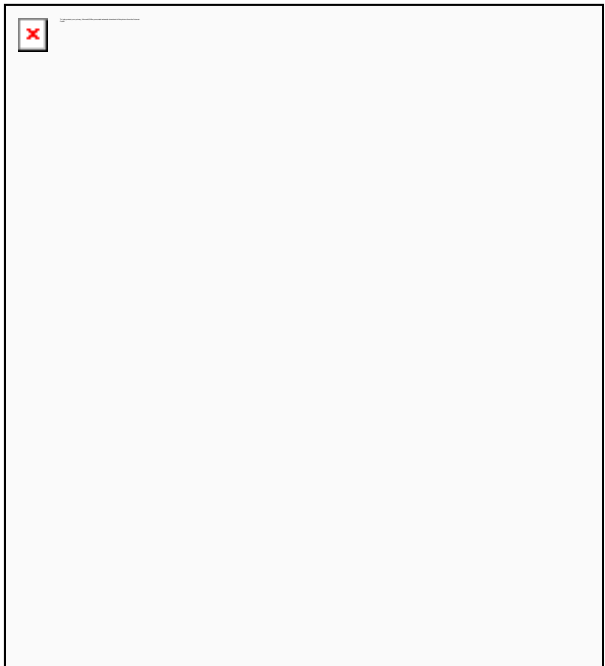
OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [773171147560](#)

FROM ARCADIS
28550 Cabot Drive
Suite 500
Novi, MI, US, 48377

TO City of Pontiac-Dept Public Works
Abdul Siddiqui, City Engineer
47450 WOODWARD AVE

	1st Floor
	PONTIAC, MI, US, 48342
PURCHASE ORDER NUMBER	PHIC Request for Conf and Ret
REFERENCE	30076014.00003
SHIPPER REFERENCE	30076014.00003
SHIP DATE	Tue 3/16/2021 05:31 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	Novi, MI, US, 48377
DESTINATION	PONTIAC, MI, US, 48342
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Standard Overnight



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Thank you for your business.

Mr. Abdul Siddiqui, City Engineer
City of Pontiac
Department of Public Works – Engineering Division
City Hall
47450 Woodward Ave, 1st Floor
Pontiac, MI 48341

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Public Highway Institutional Control
Request for City of Pontiac Confirmation and Return
North Mill Street Right-of-Way Adjacent to Auch Construction
(Former RACER EDC Property)
65 E. University Drive, Pontiac, MI 48342
Facility ID No.: 63006001/0-0015260
RRD Reference Number: PHIC-RRD-213-20-069.

ENVIRONMENT

Date:
March 17, 2021

Contact:
Brad Saunders

Phone:
517-974-4441

Email:
brad.saunders@arcadis.com

Our ref:
30076014.00003

Dear Mr. Siddiqui:

On behalf of Revitalizing Auto Communities Response (RACER) Trust, Arcadis of Michigan, LLC (Arcadis) transmits the enclosed Public Highway Institutional Control (PHIC) to the City of Pontiac for an area of land in the North Mill Street right-of-way (ROW) located immediately west of the current Auch Construction site formerly known as the General Motors Pontiac Employee Development Center located at 65 East University Drive in Pontiac, Michigan (Site – **Figure 1**).

In 2016, approval for No Further Action (NFA) was granted to RACER Trust for the Site (**Figure 2**) by the Michigan Department of Great Lakes, Environmental and Energy (EGLE) after the completion of assessment, investigation, and remediation activities conducted at the Site from 2007 through 2016. Work was completed under oversight from EGLE in accordance with the rules and regulations of 201 and 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA) (Public Act 451), as amended (the Act).

While NFA was granted for the Site, declining concentrations of residual groundwater impacts which migrated under a portion of North Mill Street immediately west of the Site have been monitored by Arcadis from 2013 through 2020. To meet environmental regulatory closure for the North Mill Street ROW pursuant to Section 21310a of the Act, Arcadis is submitting the required information and supporting documentation to the City of Pontiac regarding impacts remaining within North Mill Street, located west of the Site.

This institutional control relies on existence of a public highway owned by the City of Pontiac and its associated right-of-way (ROW) as a public highway for the foreseeable future.

Summary of Required Information for Submittal

Consistent with Section 21310a(3) (c)(i), the following information has been provided:

A – Provide Site name, address, and facility identification number, and the name and contact information of the person relying on the alternative mechanism.

Site: Former Employee Development Center, located at 65 E. University Drive, Pontiac, Michigan 48342.

- Facility Identification Number: 63006001/0-0015260
- Contact Information:
 - o Consultant: Brad Saunders; Arcadis of Michigan, LLC; 28550 Cabot Drive, Suite 500, Novi, Michigan 48377; Phone – 517-974-4441; email – brad.saunders@arcadis.com.
 - o Revitalizing Auto Communities Environment Response (RACER) Trust. – David Favero, Deputy Cleanup Manager - Michigan; 1505 Woodward Avenue, Suite 200, Detroit, Michigan 48226; Phone – 217-741-6235; Email – dfavero@racertrust.org.

B – Identification of the EGLE Department District Office with jurisdiction over the Site.

- Southeast Michigan District Office; Remediation and Redevelopment Division; 27700 Donald Court, Warren, Michigan 48902; Contact Greg Barrows; Phone: 586-753-3700; Email – barrowsg@michigan.gov.

C – The name of the affected public highway and the nearest intersection.

- The affected public roadway is a portion of North Mill Street, located west of the Site (**Figures 3A, 3B, 3C, 3D, 4, 5, and 6**).
- The nearest intersection is North Mill Street and University Drive.

D – Identification of known or suspected contaminants.

- Declining concentrations of residual benzene, 1,2-dichloroethane (1,2-DCA), 1,2-dichloropropane (1,2-DCP), and trichloroethene (TCE) are present in groundwater within the defined PHIC Area.

E – A statement that residual or mobile non-aqueous phase liquid (NAPL) is or is not present at the affected public highway.

- Mobile LNAPL has not been present within North Mill Street or its respective ROWs historically or currently.

F – The media affected, including depth of contaminated soil, depth of groundwater, and predominate groundwater flow direction.

- Soil is impacted from contact with impacted groundwater; the depth to contaminated soil is at approximately 3 to 9 feet below ground surface (bgs) (**Figure 4**).
- Groundwater is impacted and the depth to contaminated groundwater is at approximately 3 to 9 feet bgs (**Figure 5**).
- Based on previous groundwater investigation activities conducted at the Site and adjacent North Mill Street ROW, the groundwater flow direction ranges from northwest to southwest across the North Mill Street ROW (**Figure 6**).

G – A scale drawing of the portion of public highway subject to the alternate mechanism that depicts the area impacted by regulated substances and the location of utilities in the impacted area, including storm water systems and municipal separate storm sewer systems.

- Please refer to the attached **Figures 3A-3D, 4, and 5** which depict the horizontal and vertical extent of impacted areas and comparison against EGLE Part 201 Generic Cleanup Criteria which may be potentially relevant to persons working within the roadway and ROW of North Mill Street. None of the contaminants exceed criteria potentially relevant to workers. While contaminant exceedances of EGLE drinking water criteria exist, the City of Pontiac has enacted an Ordinance which encompasses the PHIC Area restricting the use of groundwater as a drinking water source.

H – Identification of all ownership and possessory or use property interests related to the public highway and whether they are affected by the contamination and whether they have received notification of the existing conditions as part of a corrective action plan or pursuant to the due care requirements under Section 21304c of the Act.

- Notices were submitted in May 2016 to parties of potential interest in the public highway as required under Part 213 – Notice to Impacted Parties (NIP).

I – Identification of exposure risks from drinking water, direct contact, groundwater, soil excavation, or relocation.

- Soil and Groundwater Risks:
 - o Soil and groundwater impacts have been identified along the western Site boundary and are anticipated to be in the western ROW of North Mill Street in Pontiac, Michigan. Refer to **Figures 2, 4 and 5** which depicts the area of roadway anticipated to contain impacted soil and/or groundwater based on soil boring and monitoring well locations located within North Mill Street. Soil and groundwater samples collected from locations within the ROW of North Mills Street have not exceeded applicable EGLE Part 201 Generic Cleanup Criteria that pose a concern to workers conducting activities within the utility corridor of North Mills Street (**Figures 4 and 5**).
 - o Cross sectional diagrams depicting soil and groundwater impact distribution are provided on **Figures 3A, 3B, 3C, and 3D**.
- Groundwater Management:
 - o Based on current and declining concentrations of groundwater contaminants in the North Mil Street ROW, identified impacts referenced in this notification should not result in the need for the City of Pontiac to implement special or non-standard groundwater management measures in the event utility work is being performed in the roadway. Specifically, to the extent it is necessary to pump and displace groundwater to work on utilities within the PHIC Area, standard practices such as pumping groundwater into the area storm water drains would be acceptable given that residual groundwater contaminants are less than EGLE Groundwater-Surface Water Interface (GSI) Cleanup Criteria. In any event, City of Pontiac it is anticipated that procedures for management of groundwater for short-term dewatering for construction purposes will be conducted in accordance with all applicable local state, and federal laws and regulations.
- Soil Management:
 - o Based on available soil analytical data, identified impacts referenced in this notification should not change City of Pontiac procedures for management of soils. Specifically,

standard practices such as temporarily staging soils to facilitate access to utilities and then returning soils into the open excavation would be acceptable. With the exception of potential aesthetic impacts to saturated soils in contact with groundwater, soils and fill used in the street would have been those used by the City of Pontiac during construction of the roadway. As such, it is anticipated that identified contaminated soils, media and/or debris which may be encountered in the North Mill Street ROW will be managed in accordance with the applicable requirements of Section 20120c or Section 21304b of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq.; the administrative rules promulgated thereunder; and all other relevant state and federal laws.

J – Confirms that there are no current plans to relocate, vacate, or abandon the public right of way.

- Based on details documented in the City of Pontiac 2014 Master Plan, there are no current plans to relocate, vacate, or abandon the public ROW and use of North Mill Street will continue to access adjacent commercial and residential properties. If the City of Pontiac Department of Public Works – Engineering Division has plans to do work within North Mill Street or its associated ROW, the City of Pontiac may contact Arcadis personnel using the contact information outlined in Item A above for clarification regarding the content of this notification and further discussion.

K – Provide information that as a result of the release contamination does not enter a storm sewer system or clearly identify the nature and extent of the contamination that enters or has the potential to enter the storm sewer.

- A storm sewer is located in the eastern ROW of North Mill Street at a depth of approximately 10 to 12 feet bgs, and is 36 inches in diameter (**Figure 2**). The storm sewers in North Mill Street discharge into the nearby Augusta Relief Drain, which consists of two parallel 10-foot diameter drain lines located approximate 10-15 feet bgs.
- The Augusta Relief Drain leads into the Clinton River, which is located approximately 200 feet southeast of the Site.
- Storm sewer inlets in the immediate vicinity of Site including the North Mill Street PHIC Area and other North Mill Street and University Drive locations were previously sampled as part of the activities that served as the basis for the EGLE approved 2016 NFA Request for the Site. The results of sampling did not indicate concentrations of groundwater contaminants in the sewer exceeding EGLE groundwater-surface water interface (GSI) cleanup criteria.

Arcadis is submitting the required information and supporting documentation regarding impacts remaining within the City owned roadway of North Mill Street, located west of the Site pursuant to Section 21310a(3)(c) of the Act.

If you have any questions or concerns, please contact me at 517-974-4441, or by email at brad.saunders@arcadis.com. Upon receipt and review, and resolution of any questions or concerns, please provide back confirmation (name printed, signature, title and date) by a City of Pontiac authorized representative on Page 3 of the EGLE PHIC Form EQP4506, and return the signature page to me at Arcadis at the address on this letter or by scanning and emailing to brad.saunders@arcadis.com.

Mr. Abdul Siddiqui
City of Pontiac
Department of Public Works – Engineering Division
March 17, 2021

Sincerely,
Arcadis of Michigan, LLC



Brad Saunders, P.E.
Principal Engineer

Copies:

Mr. David Favero, RACER Trust Deputy Cleanup Manager – Michigan
Mr. Greg Barrows, EGLE Senior Geologist / Site Cleanup Manager
Mr. Mike Pozniak, P.G., Arcadis Senior Geologist

Enclosures:

Public Highway Institutional Control Michigan Form EQP4506

Figures

- 1 Site Location Map
- 2 Site Map
- 3A Cross Section Transect Map
- 3B Cross Section A-A' (North to South)
- 3C Cross Section B-B' (West to East)
- 3D Cross Section C-C' (West to East)
- 4 Soil Analytical Map
- 5 Groundwater Analytical Map
- 6 Groundwater Elevation & Depth to Water (2013 – 2020)

Attachments

- 1 Notice to Impacted Parties
- 2 City of Pontiac 2014 Master Plan

PUBLIC HIGHWAY INSTITUTIONAL CONTROL

When environmental contamination is proposed to remain in place within a public highway owned or controlled by a county road commission or local unit of government, the "Public Highway Institutional Control" may be used to satisfy all of the requirements under Section 21310a(3)(c) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). In addition, the "Public Highway Institutional Control" may serve as an alternative instrument, with department approval, pursuant to Section 20121(9) of Part 201, Environmental Remediation, of the NREPA. The party proposing this Institutional Control (IC) shall submit the completed form and all attachments with a Closure Report pursuant to Part 213 or a No Further Action Report pursuant to Part 201 to the appropriate [District Office](#). Multiple signature pages may be necessary if there is more than one authority that owns or controls the public highway. The EGLE Reference Number can be obtained by contacting the Remediation and Redevelopment Division at deq-rrd@michigan.gov, or by calling 517-284-5153.

SECTION 1. FACILITY INFORMATION:

EGLE REF. NUMBER PHIC-RRD-213-20-069

SITE OR FACILITY NAME: Employee Development Center

SITE OR FACILITY ID NUMBER: 63006001/0-0015260

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

NAME OF PARTY PROPOSING PUBLIC HIGHWAY IC:
Revitalizing Auto Communities Environment Response
(RACER) TrustEMAIL ADDRESS:
dfavero@racertrust.org

STREET ADDRESS: 1505 Woodward Avenue, Suite 200

CITY: Detroit

STATE:
MIZIP:
48226CONTACT PERSON: David Favero, Deputy Cleanup
Manager - Michigan

PHONE: 734-879-9525

FAX: 734-879-9537

EGLE District Office: ☐ Cadillac ☐ Gaylord ☐ Grand Rapids ☐ Jackson ☐ Kalamazoo ☐ Lansing
☐ Saginaw Bay ☒ SE Michigan ☐ Upper Peninsula**SECTION 2. AFFECTED PUBLIC HIGHWAY INFORMATION:**

1. Name of affected public highway(s) and nearest intersection: Mill Street at University Drive

2. Known or suspected contaminant(s) type (Check all that apply):

☒ Petroleum☒ Volatile organic compounds☐ Metals☐ Other3. Is residual/mobile nonaqueous-phase liquid present in the affected public highway: ☐ YES ☒ NO

4. Media contaminated:

a. ☒ Soil Depth to contaminated soil: ~ 3-9 ft bgsb. ☒ Groundwater Depth to contaminated groundwater: ~ 3-9 ft bgs Predominant groundwater flow direction:
Northwest-West-Southwest

5. Provide a scaled drawing of the portion of the public highway subject to the institutional control that depicts the area impacted by regulated substances and the location of utilities in the impacted area, including storm water systems and municipal separate storm water systems. At a minimum, the scaled drawing should include:

- A north arrow.
- A graphical scale bar and scale statement (e.g. 1"=50').
- The limits of the source property plotted, to scale, showing the relationship to the county road commission or local unit of government and other affected parcels.
- The public highway(s) name identified.
- A statement identifying the Township, Range, Section, and Quarter Section where the parcel is located.
- The limits of the affected public highway plotted to scale. This area should be hatched and labeled appropriately.
- The location of significant site features such as buildings, drives, parking lots, and road surface.
- Cross section illustrating affected public highway, media, utilities, and location and depth of contaminated media.
- Most recent analytical data illustrating contaminant compounds and concentrations within the contaminated media.

6. Provide a complete list that identifies all parties with ownership and possessory or use property interests related to the public highway (including owners of real property, easement holders, utility franchise holders, and owners or operators of public utilities):

City of Pontiac / Department of Public Works (Owner of Real Property, Water Line, Sanitary Sewer Line)
Oakland County Water Resource Commission (Storm Sewer System, Sanitary Sewer Line)
Consumers Energy (Natural Gas Line)

- a. Are any of the parties listed above affected by the contamination: ☒ YES ☐ NO
b. Have all of the parties above affected by the contamination received notification of the existing conditions as part of a corrective action plan or pursuant to the due care requirements: ☒ YES ☐ NO

As part of the No Further Action (NFA) request made for the adjacent site which was approved by MDEQ (EGLE), Notice to Impacted Parties (NIPs) were sent in May 2016 to the parties listed above.

7. Exposure risks:

- a. Due to groundwater contamination (Check all that apply):

☒ Drinking water ☐ Indoor air inhalation ☐ Surface water

- b. Due to soil contamination (Check all that apply):

☐ Direct contact ☐ Ambient air Inhalation ☐ Indoor air inhalation ☐ Leaching from soil to groundwater

☐ Direct transport to surface water ☐ Soil excavation/relocation

Based on the exposure risks identified above, insert a paragraph below which describes the affected media, the nature and extent of the hazardous substances, the cleanup criteria exceeded, the routes of potential exposure, any response activities or corrective actions that have been taken to address the contamination, and any activities that could result in exposure to hazardous substances that would cause this institutional control to not be protective of public health, safety, and welfare (e.g. use of the groundwater for consumption, irrigation, or any other use, management and disposal of groundwater for dewatering for construction purposes; any excavation or intrusive activity that would result in contaminated soils to be placed at the ground surface or otherwise exacerbate the extent of contamination).

Affected media within the identified PHIC area includes shallow groundwater due to migration from the east-adjacent property. Hazardous substances are residual impacts from historic gasoline and solvent releases which occurred at the east-adjacent property prior to 1990. Detected contaminants in groundwater as sampled from monitoring wells located within the PHIC area include declining concentrations of benzene, 1,2-dichloroethane, 1-2-dichloropropane, and trichloroethene. Of the contaminants, only benzene still exceeds Michigan Generic Groundwater Cleanup Criteria for Residential and Non-Residential Drinking Water. The concentration of benzene is below other potentially applicable Michigan Generic Cleanup Criteria, and no other contaminant concentrations exceed potentially applicable Michigan Generic Cleanup Criteria. Corrective measures were implemented in 2012 to remove contaminated soils at the east-adjacent property, which were the remaining source of groundwater contaminants, via a large soil excavation which extended up to the property line. After a period of groundwater monitoring, EGLE (MDEQ) issued a No Further Action (NFA) for the east-adjacent property in 2016. From 2012 through 2020 when monitoring activities were ceased, the concentration of benzene detected in the PHIC area significantly declined to less than 1% of the concentration measured at the time soil corrective measures were implemented. Given that City of Pontiac Ordinance 2311 (2013) restricts use of groundwater as a drinking water source at this location, the exposure risk for drinking water is controlled. Evidence of residual aesthetic impacts may be detected in groundwater or apparent through staining of saturated soil within the range of the seasonably high groundwater table during utility work. However, the results of monitoring indicate that identified risks are controlled and this PHIC is protective of public health, safety and welfare.

SECTION 3. STORM SEWER SYSTEM CERTIFICATION:

Is contamination present in or does the contamination have the potential to enter the storm sewer system (including separate storm sewer systems and combined sewers) as a result of the release from the underground storage tank system:

☒ YES ☐ NO

If yes, please provide information below and attach any drawings, tables, etc. that clearly identifies the nature and extent of the contamination that enters or has the potential to enter the storm sewer system.

While declining concentrations of residual volatile organic compound (VOC) contaminants exist in groundwater in the vicinity of a storm sewer line, water inside of storm sewer manholes in the area was tested for VOCs during dry weather periods for three consecutive calendar quarters from 2014 to 2015 at the direction of MDEQ (EGLE) as part of site closure activities. Of the storm sewer manholes tested, one existed within the proposed PHIC area, and two others exist slightly north and south of the area in Mill Street. Test results did not indicate the detectable presence of VOCs in these storm sewer manholes during any of the testing events. Concentrations of VOCs in groundwater steadily declined in the PHIC area since the 2012 excavation of impacted soils at the east adjacent property through 2020, and as of the time of the PHIC filing have dropped below Michigan groundwater / surface water interface (GSI) criteria.

SECTION 4. SUBMITTER INFORMATION:

I, as the submitter identified in Section 1, or the qualified consultant authorized to complete this document on the submitter's behalf, hereby attest to the accuracy of the statements in this document and all attachments, and have provided this document to the county road commission or local unit of government.

Signature	Print	Date
	Mike Pozniak	03/17/2021
Name of Company (if applicable)	Address, City, State, Zip	
Arcadis of Michigan, LLC	300 South Washington Square, Suite 315, Lansing, MI 48933	
Phone Number	Fax Number	Email Address
517-324-5054	517-337-0417	Mike.Pozniak@arcadis.com

SECTION 5. COUNTY ROAD COMMISSION OR LOCAL UNIT OF GOVERNMENT CONFIRMATION:

Name of county road commission or local unit of government: City of Pontiac

The aforementioned **[choose: county road commission or local unit of government]** hereby confirms that there are no current plans to relocate, vacate, or abandon the public highway. With my signature below, I certify that I am legally authorized to sign on behalf of the **[choose: county road commission or local unit of government]**.

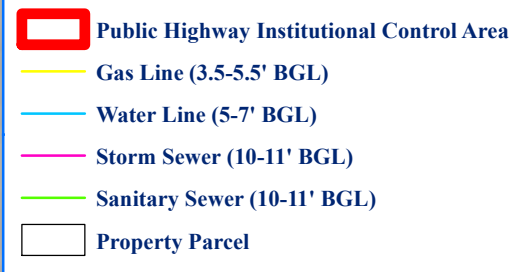
Signature of Authorized Official	Print Authorized Official	
		
Title of Authorized Official	Date	
		
Name of county road commission or local unit of government	Address, City, State, Zip	
City of Pontiac, Department of Public Works	47450 Woodward Avenue, Pontiac, MI 48342	
Phone Number	Fax Number	Email Address
248-758-3600		DPW@pontiac.mi.us

**Legal Description of the
Public Highway Institutional Control Area:**

Land situated in the eastern quarter of Section 29, Township 3 North, Range 10 East, City of Pontiac, County of Oakland, State of Michigan, more particularly described as follows, to wit:

From a point at the Northeastly corner of Mill Street (50 feet more or less in width) as widened and University Drive (formerly Mt. Clemens Street), said point being distant 10.24 feet Easterly as measured along the Southerly line of Lot 8 of Assessor's Plat No. 121, (L. 53, P. 41 Plats) from the Southwestly corner of said Lot 8 and running thence from said point North 15 degrees 22 minutes 50 seconds West along the Easterly line of said Mill Street as widened, a distance of 188.71 feet to the point of beginning of this description; thence North 15 degrees 22 minutes 50 seconds West a distance of 141.36 feet to a point; thence South 74 degrees 14 minutes 52 seconds West a distance of 46.30 feet to a point along the Westerly line of said Mill Street; thence South 15 degrees 22 minutes 50 seconds East a distance of 141.36 feet to a point; thence North 74 degrees 14 minutes 52 seconds East a distance of 46.30 feet to the point of beginning. Containing 0.150 acres, more or less.

**Tax Parcel ID
14-29-428-003**

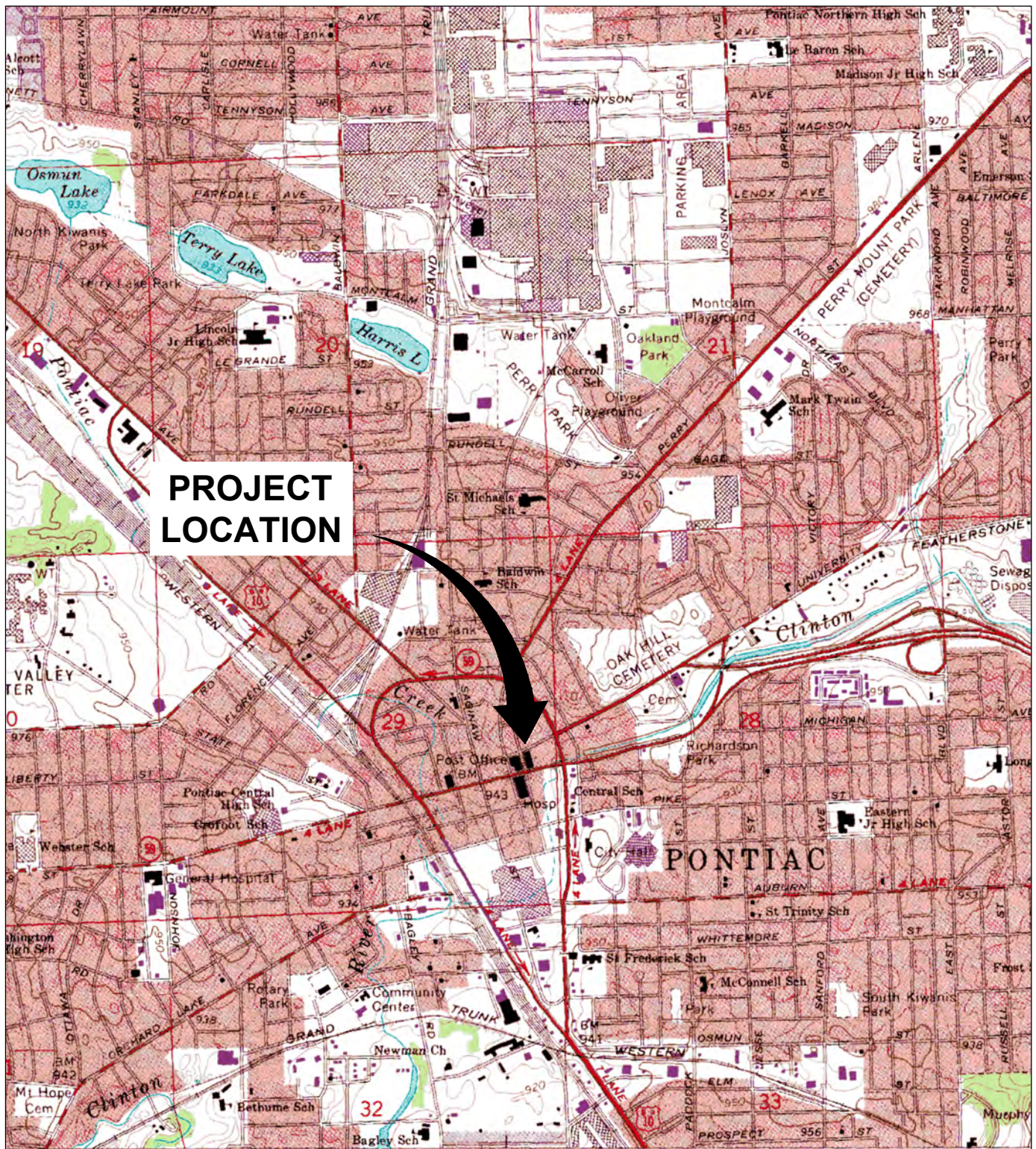


0 50 100 Feet

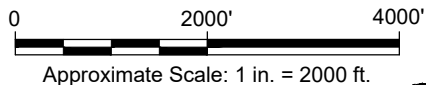


FIGURES

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REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., PONTIAC NORTH, MICH, 1968, PHOTOREVISED 1983.



RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE LOCATION MAP



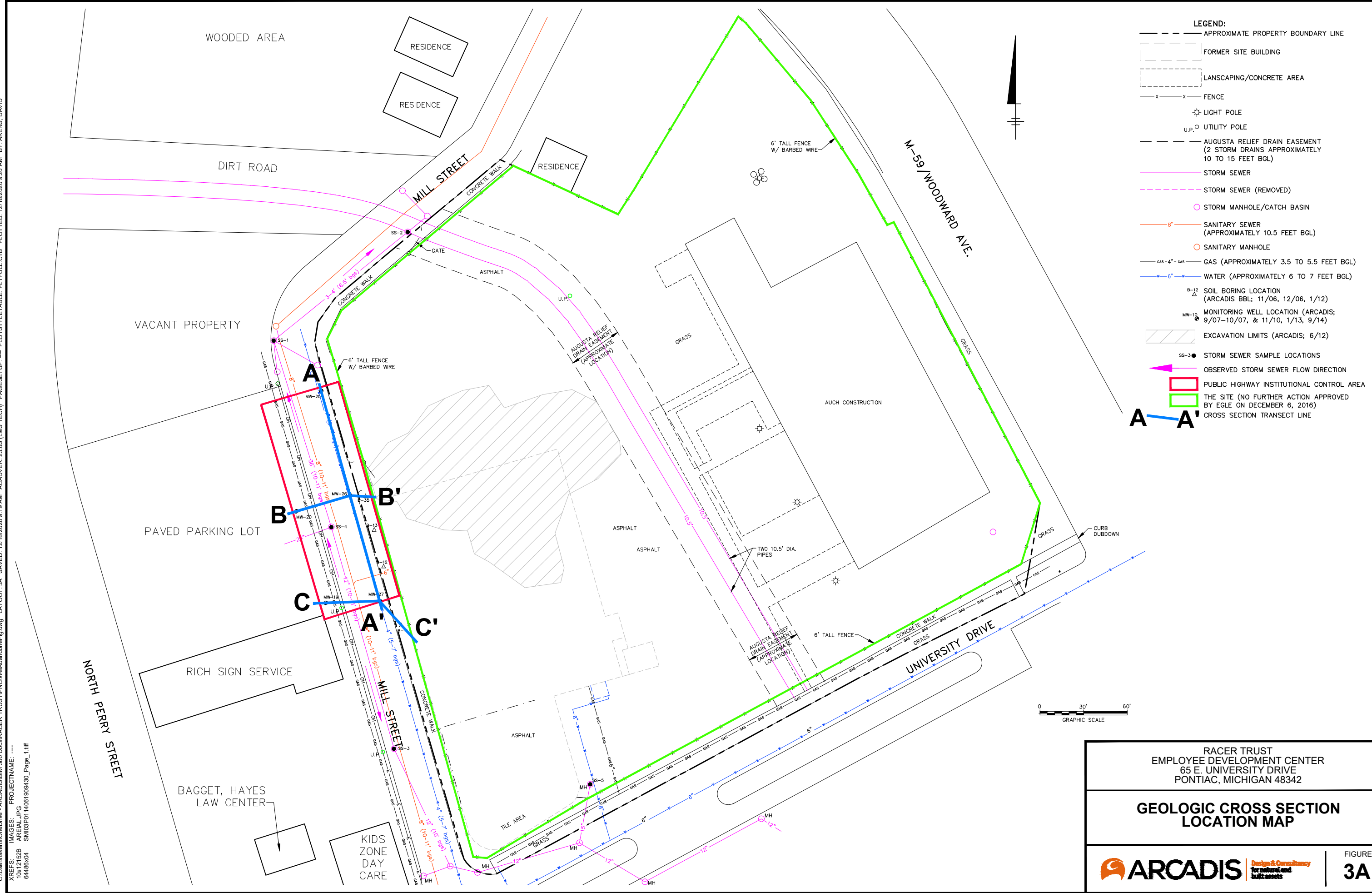
FIGURE

1

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RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

**GEOLOGIC CROSS SECTION
LOCATION MAP**



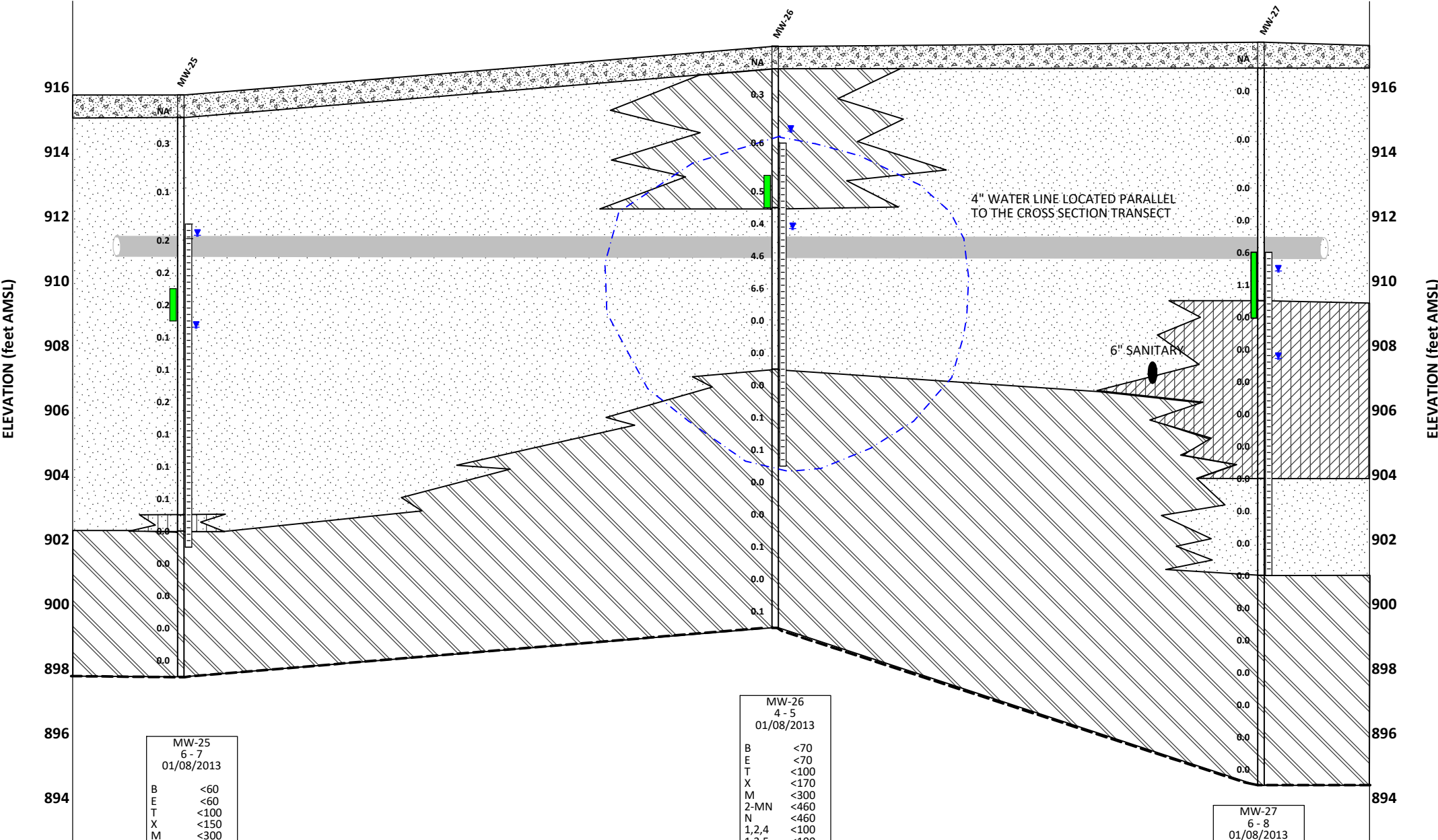
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built assets

FIGURE
3A

NORTH **SOUTH**

A **A'**

MILL STREET RIGHT-OF-WAY



MW-25	
6 - 7	
01/08/2013	
B	<60
E	<60
T	<100
X	<150
M	<300
2-MN	<430
N	<430
1,2,4	<100
1,3,5	<100
TCE	<60

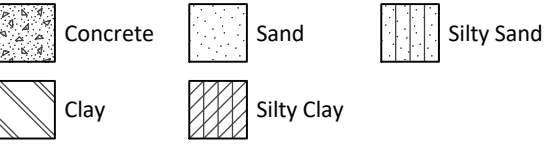
MW-26	
4 - 5	
01/08/2013	
B	<70
E	<70
T	<100
X	<170
M	<300
2-MN	<460
N	<460
1,2,4	<100
1,3,5	<100
TCE	<70

MW-27	
6 - 8	
01/08/2013	
B	<60
E	<60
T	<100
X	<160
M	<300
2-MN	<410
N	<410
1,2,4	<100
1,3,5	<100
TCE	90

Soil Sample ID
Sample Depth (feet below ground surface)
Sample Date

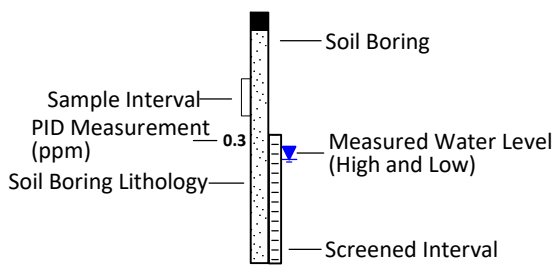
B Benzene (µg/kg)
E Ethylbenzene (µg/kg)
T Toluene (µg/kg)
X Total Xylenes (µg/kg)
M Methyl tert-butyl ether (µg/kg)
2-MN 2-Methylnaphthalene (µg/kg)
N Naphthalene (µg/kg)
1,2,4 1,2,4-Trimethylbenzene (µg/kg)
1,3,5 1,3,5-Trimethylbenzene (µg/kg)
TCE Trichloroethene (µg/kg)

LEGEND

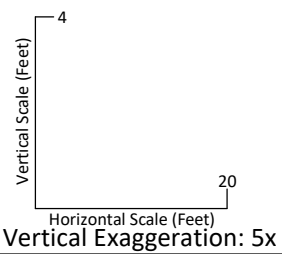


NOTES:
1. Groundwater elevations include data collected between 2013 and 2020.
2. Ground surface elevations are estimated based on monitoring well ground surface elevations.
3. All elevations are referenced to a mean sea level site datum and are in units of feet above mean sea level (AMSL).
4. Underground utility size and depth are approximate.
5. VOC parameters were analyzed via USEPA method 8260B are measured in µg/kg and are compared to Michigan Department of Environment, Great Lakes & Energy Part 201 Soil Cleanup Criteria.

Soil sample does not exceed most restrictive criteria



Underground Piping
Approximate Geologic Contact
Approximate Extent of Groundwater Impacts
Approximate Depth Explored
USEPA United States Environmental Protection Agency
µg/kg Micrograms per kilogram
ppm Parts per million

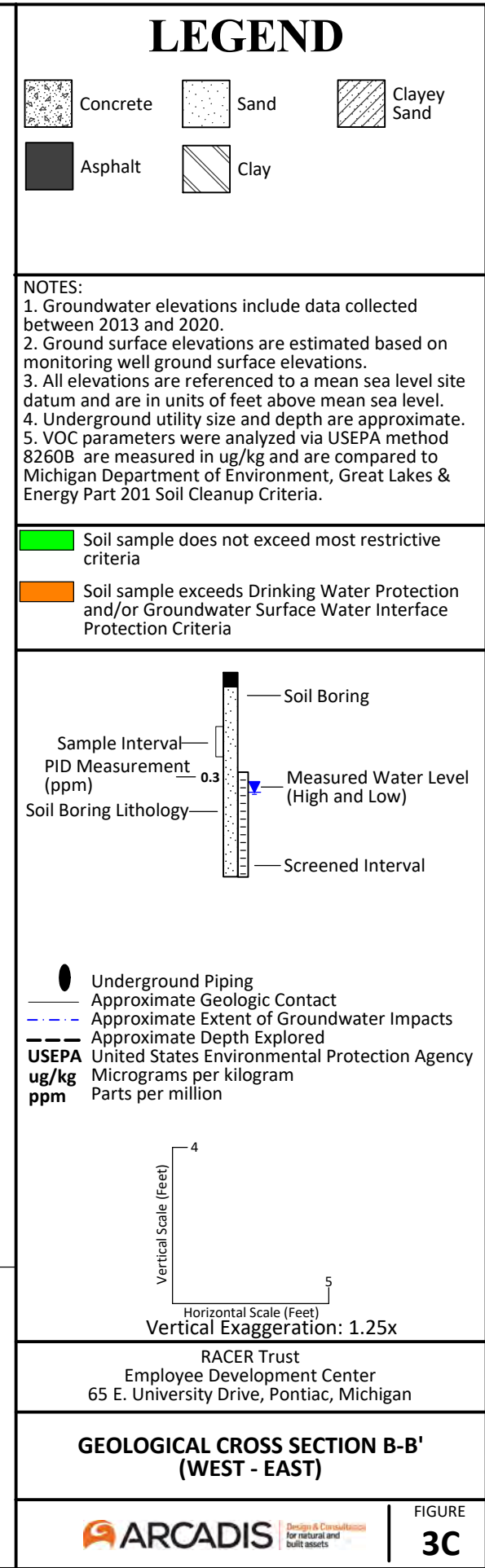
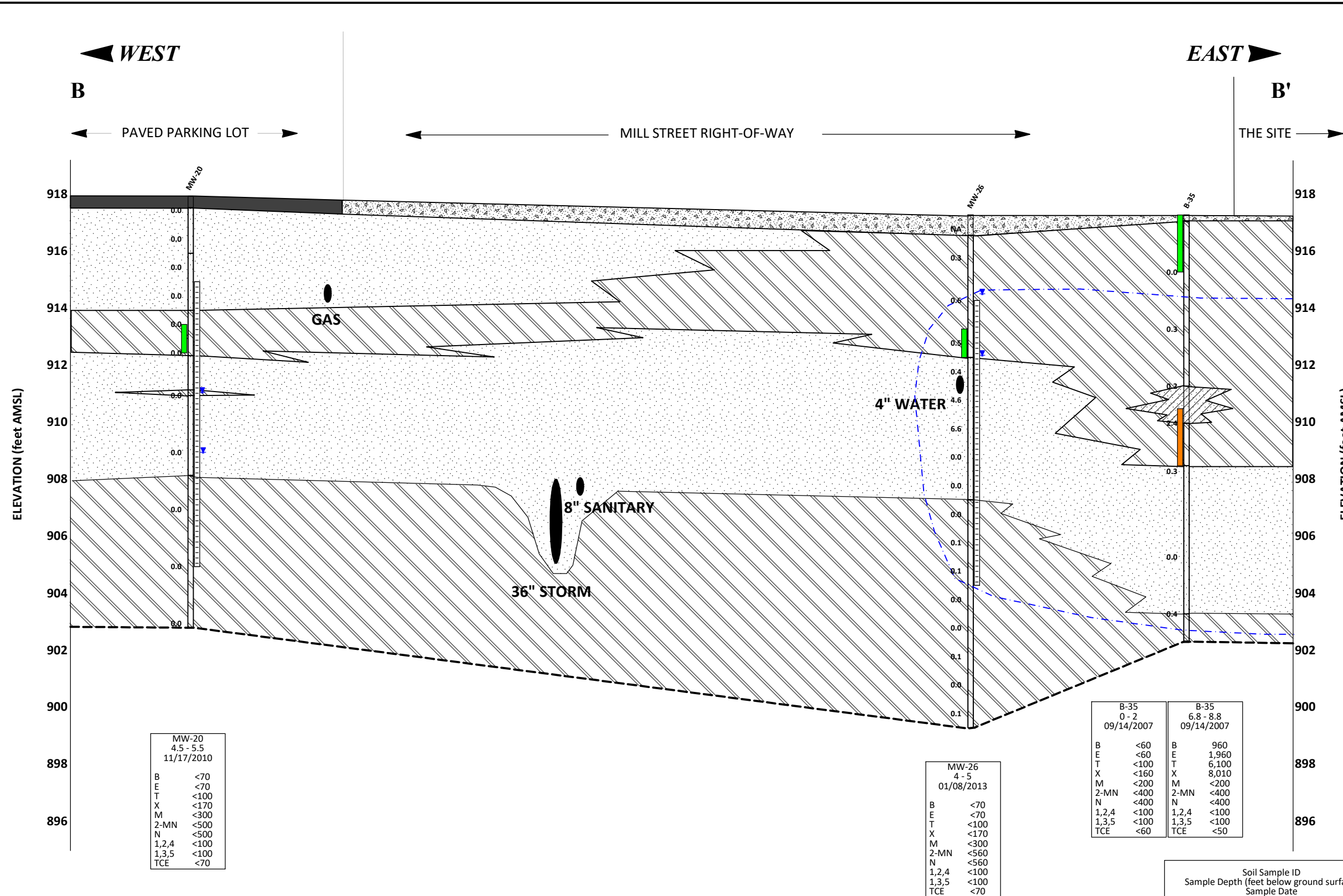


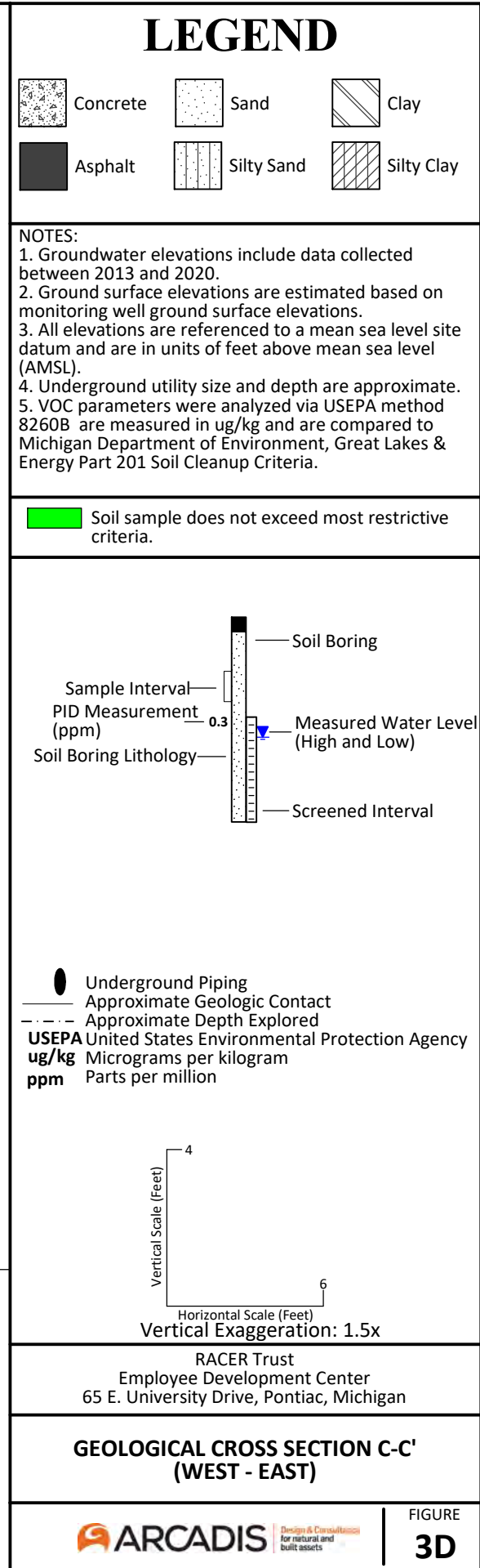
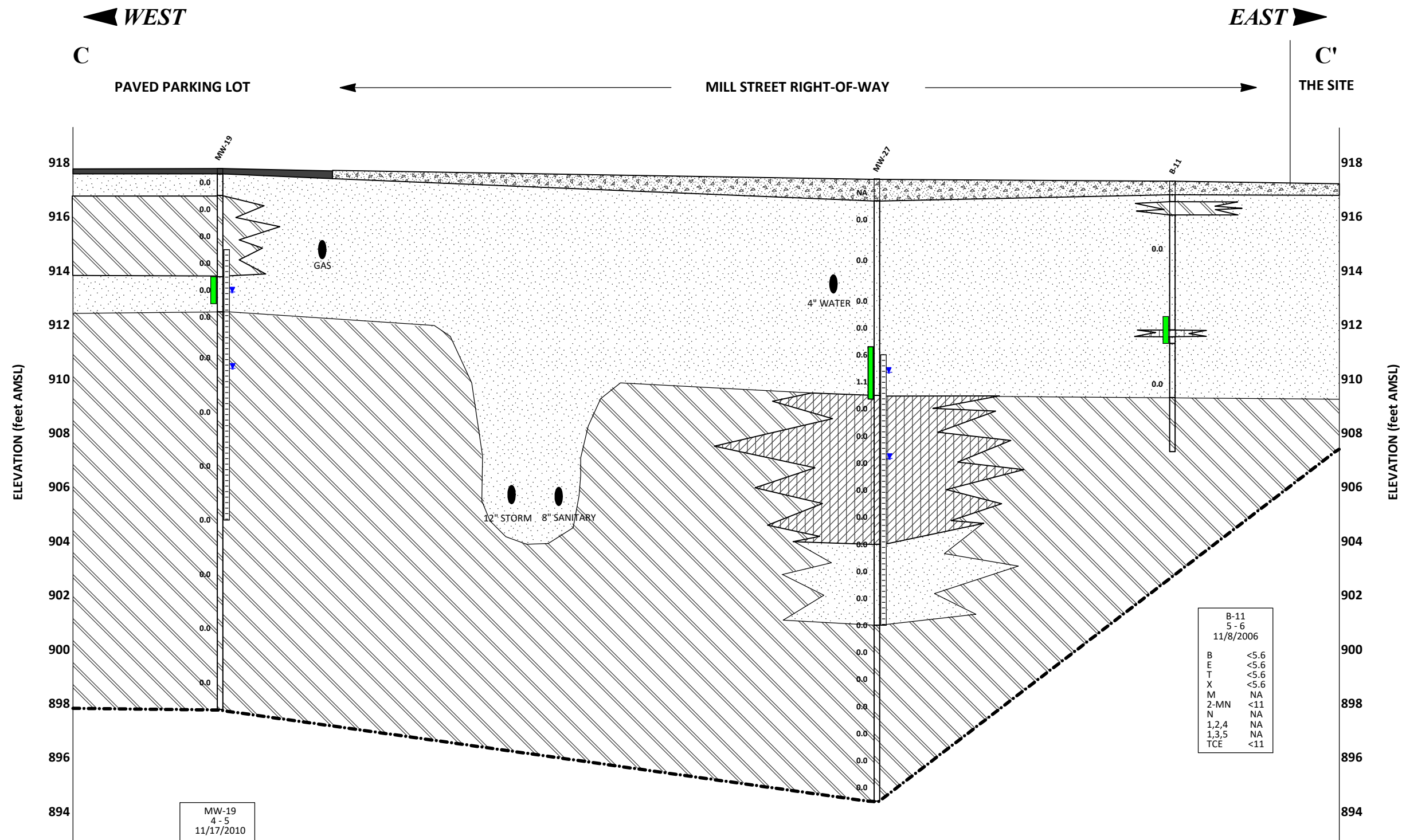
RACER Trust
Employee Development Center
65 E. University Drive, Pontiac, Michigan

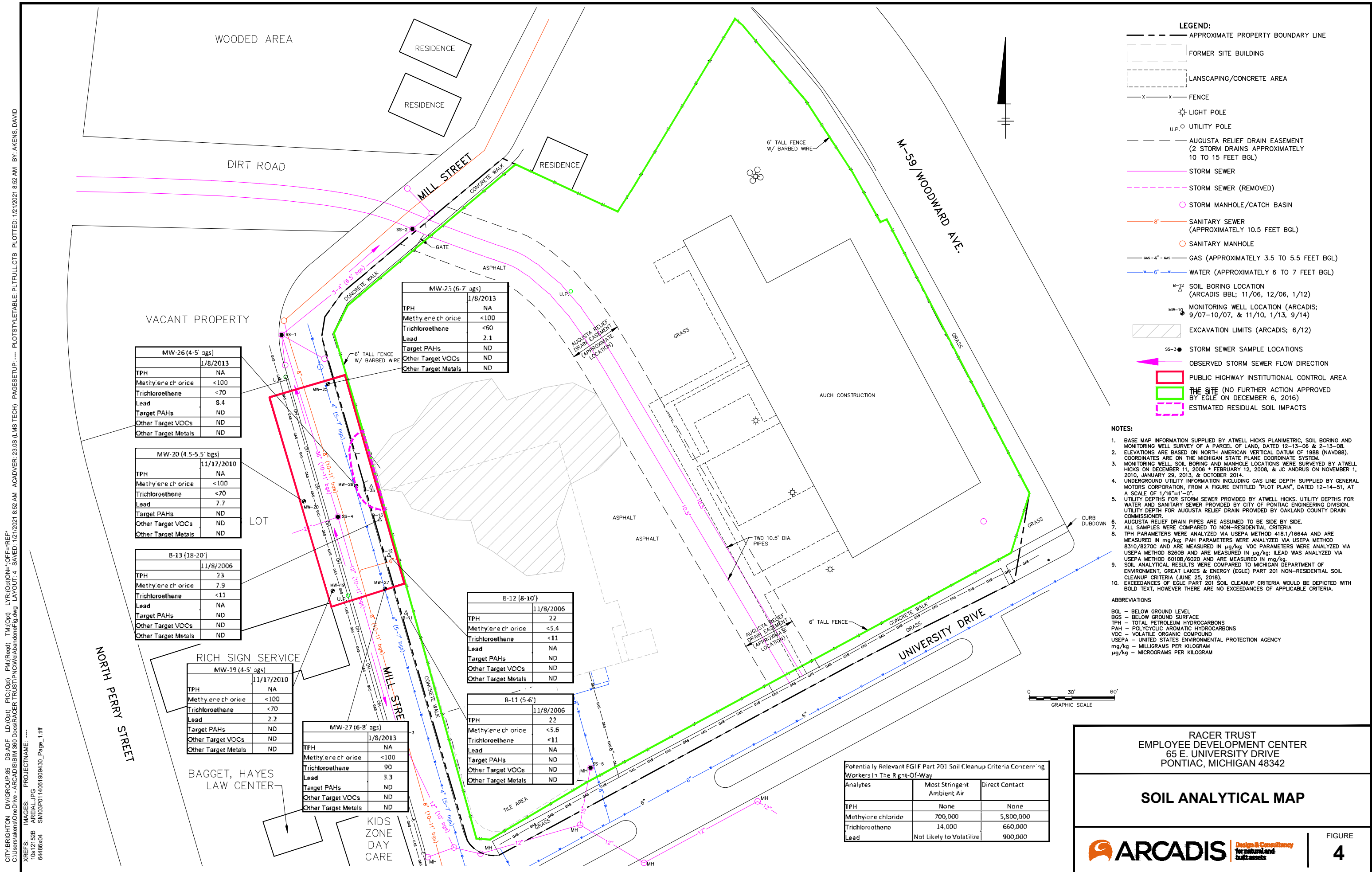
GEOLOGICAL CROSS SECTION A-A' (NORTH - SOUTH)



FIGURE
3B

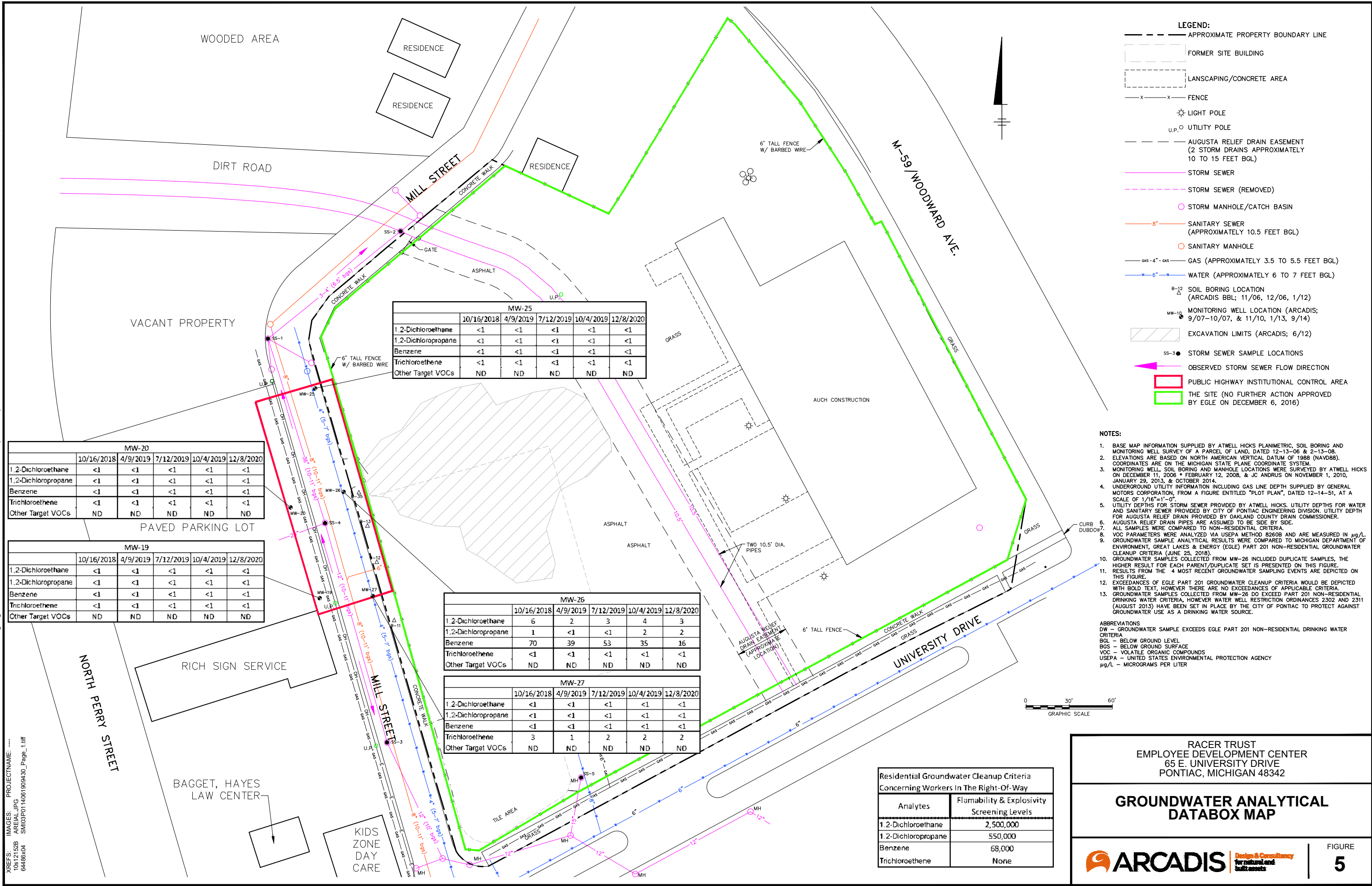






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RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

GROUNDWATER ANALYTICAL DATABOX MAP

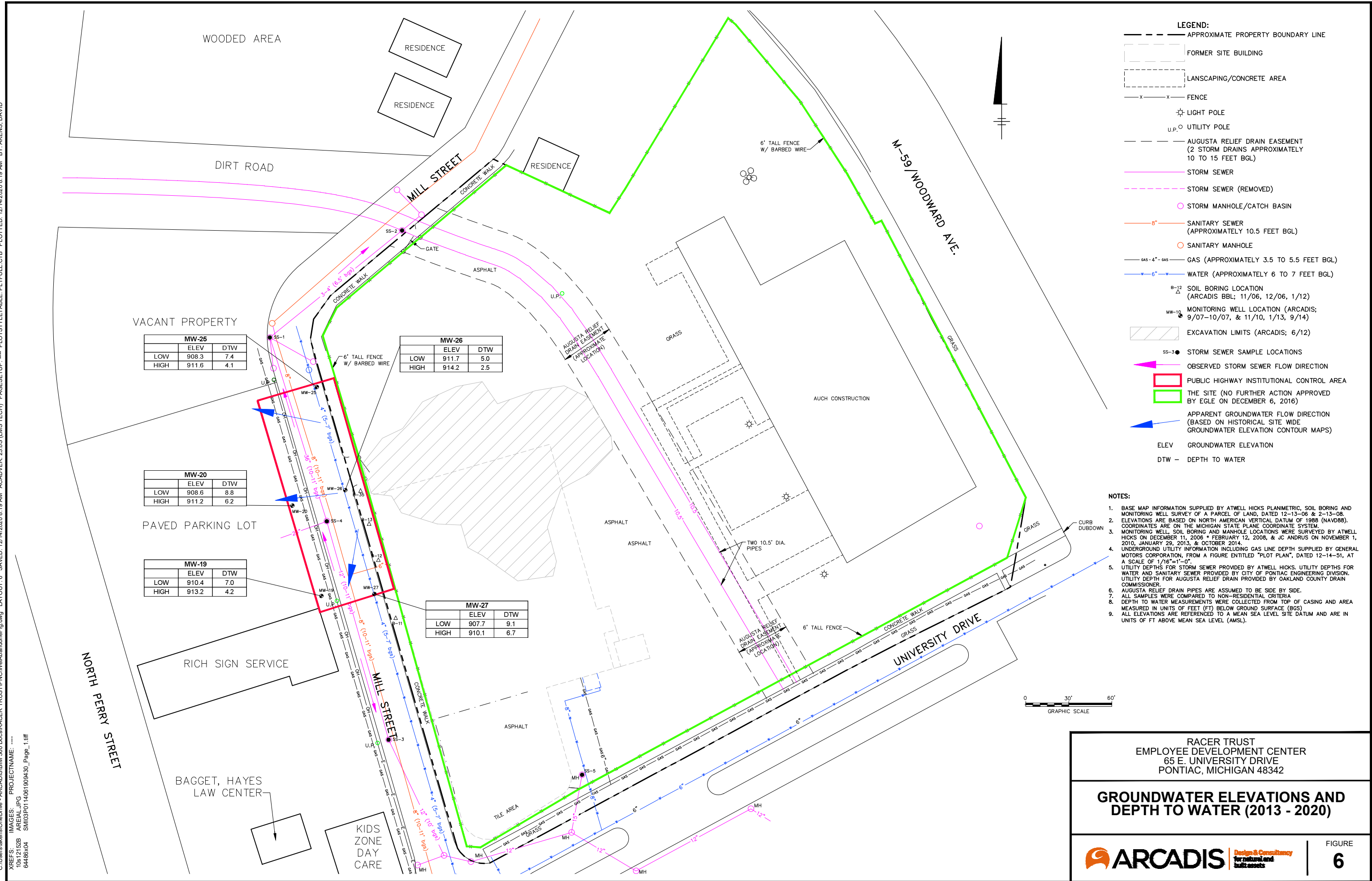
ARCADIS

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built assets

FIGURE
5

CITY: BRIGHTON DIV/ GROUP: 85 DB/ ADF LD/ (Opt) PIC/ (Opt) PM/ (Reqd) TM/ (Opt) LVR/ (Opt) ON= "OFF" REF= "C:\Users\akens\OneDrive - ARCADIS\BIM 360 Docs\RACER TRUST\PCN\W\el\Abandon\fig.dwg LAYOUT: 6 SAV: 12/14/2020 8:19 AM ACADVER: 23.05 (LMS TECH) PLOTSETUP: ---- PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 12/14/2020 8:19 AM BY: AKENS, DAVID

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RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

**GROUNDWATER ELEVATIONS AND
DEPTH TO WATER (2013 - 2020)**

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
6

Attachment 1

Notices To Impacted Parties (NIPs)

City of Pontiac
Department of Public Works
Attention: Terrance King
47450 Woodward Ave, 1st Floor
Pontiac, MI 48341

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Mr. King:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to

Terrance King
May 4, 2016

surface water pathways have been observed in on-site monitoring points associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associated Project Manager

Copies:

Mr. David Favero, RACER Trust

Water Resource Commission

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: City of Pontiac Public Works Attention Terrance King

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 47450 Woodward Ave, 1 st Floor

CITY: Pontiac

STATE: MI

ZIP: 48341

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

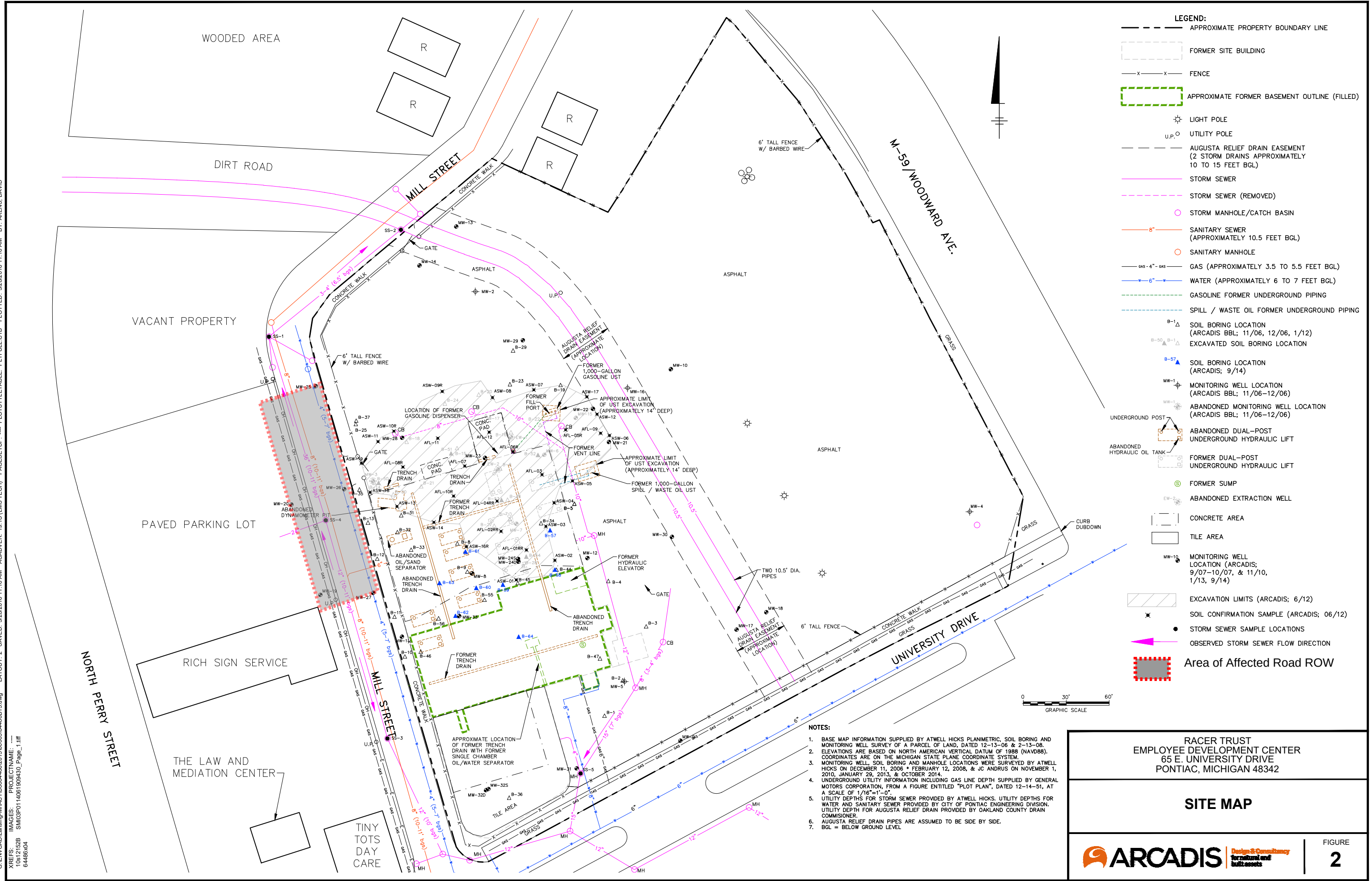
This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.

CITY: BRIGHTON DIV: GROUP 85 DE: ADF LD: (Opt) PIC: (Opt) PM: (Reqd) TM: (Opt) LVR: (Opt) ONE="OFF" REF=" G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg LAYOUT: 2 SAVED: 3/29/2016 11:16 AM ACADVER: 19.1S (LWS TECH) PAGES: 19.1S (LWS TECH) PLOT: 3/28/2016 11:16 AM BY: AKENS, DAVID
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10812152B SMD03P0114061908430_Page_1.tif 64486x04



RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE MAP





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266724488**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	S.MCCRAW	Delivery location:	47450 WOODWARD AVE PONTIAC, MI 48341
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:45
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	776266724488	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Terrance King
City of Pontiac - DPW
47450 Woodward Ave
1st Floor
PONTIAC, MI 48341 US

Reference
Purchase order number:
Invoice number

Shipper:
Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

Thank you for choosing FedEx.

Consumers Energy
1 Energy Plaza
Land Development Seventh Floor
Jackson, MI 49201

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Sir/Madam:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in on-site monitoring points

James Wineka
May 4, 2016

associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associate Project Manager

Copies:

Mr. David Favero, RACER Trust

City of Pontiac DPW

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: Consumers Energy Land Department

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 1 Energy Plaza, Land Department Seventh Floor

CITY: Jackson

STATE: MI

ZIP: 49201

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

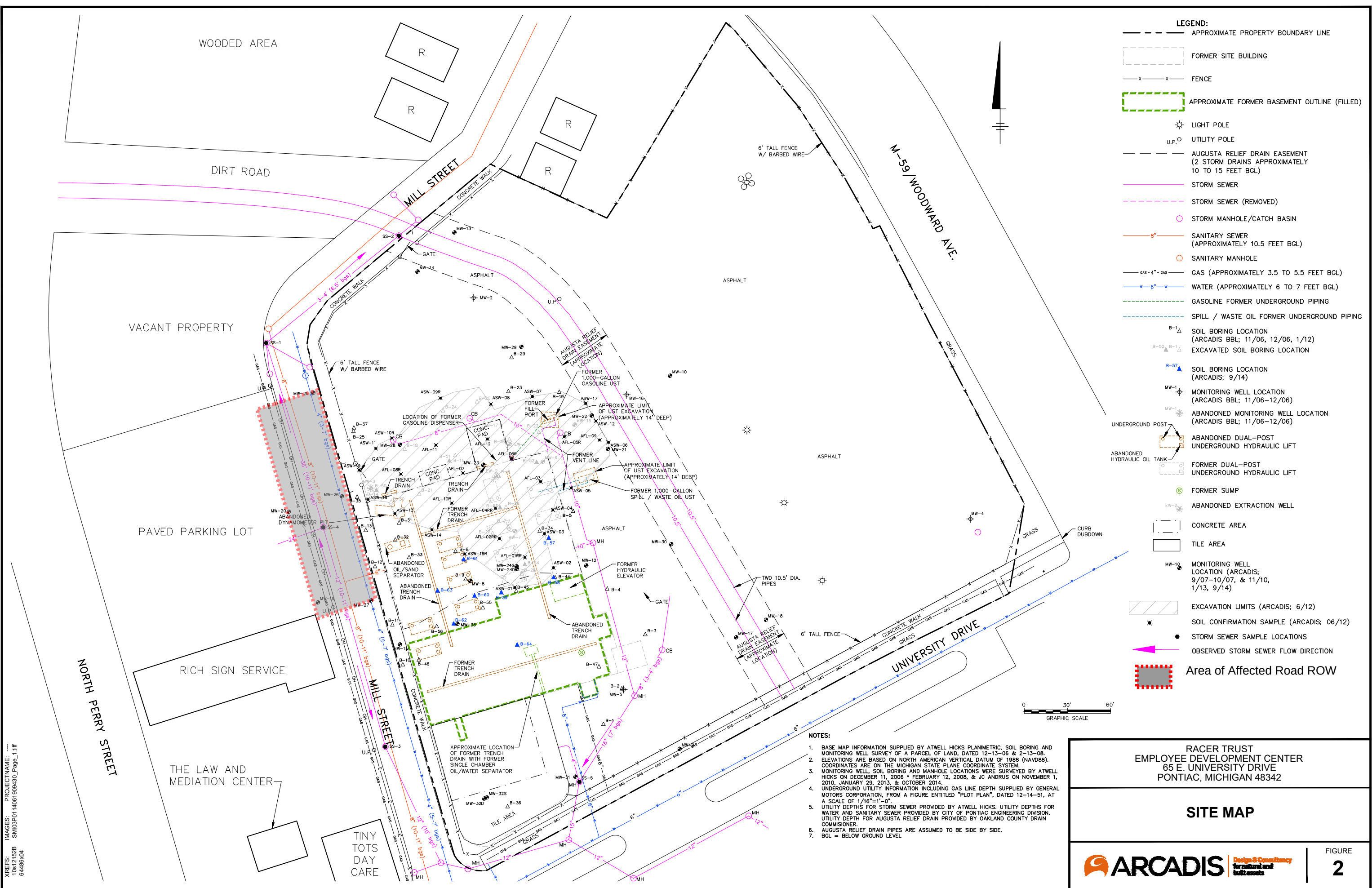
☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266674045**.

Delivery Information:

Status:	Delivered	Delivered to:	Shipping/Receiving
Signed for by:	P.TRAPKA	Delivery location:	1 ENERGY PLAZA JACKSON, MI 49201
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:10
Special Handling:	Deliver Weekday		

Shipping Information:

Tracking number:	776266674045	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Consumers Energy
1 Energy Plaza
Land Development Seventh Floor
JACKSON, MI 49201 US

Reference
Purchase order number:
Invoice number

Shipper:
Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

Thank you for choosing FedEx.

Water Resource Commission
James Wineka
1 Public Works Drive, Building 95 West
Waterford, MI 48328

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Mr. Wineka:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in on-site monitoring points

James Wineka
May 4, 2016

associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associate Project Manager

Copies:

Mr. David Favero, RACER Trust

City of Pontiac DPW

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: Water Resource Commission Attention James Wineka

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 1 Public Works Drive, Building 95 West

CITY: Waterford

STATE: MI

ZIP: 48328

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

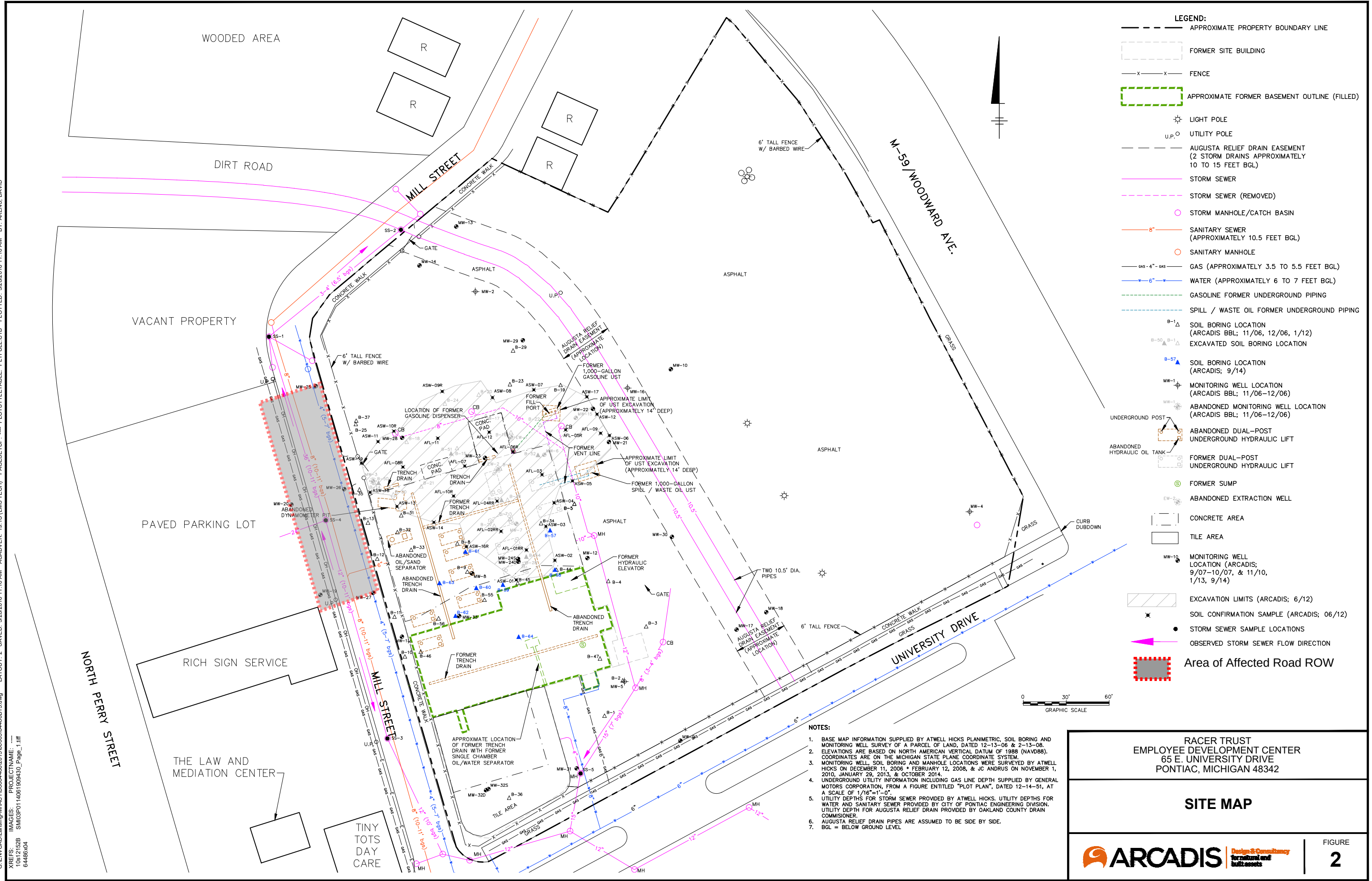
This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.

CITY: BRIGHTON DIV: GROUP 85 DE: ADF LD: (Opt) PM: (Reqd) TM: (Opt) LY: (Opt) ON: "OFF" REF: G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg LAYOUT: 2 SAVED: 3/29/2016 11:16 AM ACADVER: 19.1S (LWS TECH) PAGES: 19 PLOT: 3282016 11:16 AM BY: AKENS, DAVID
XREFS: IMAGES: PROJECTNAME: TINY TOTS DAY CARE
10812152B SMD03P0114061908430_Page_1.tif 64486x04



RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE MAP





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266757825**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	D.BUTKAS	Delivery location:	1 PUBLIC WORKS DR WATERFORD, MI 48328
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:12
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	776266757825	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:

James Wineka
Water REsource Commission
1 Public Works Drive
Building 95 West
WATERFORD, MI 48328 US

Reference

Purchase order number:

Invoice number

Shipper:

Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

Thank you for choosing FedEx.

Attachment 2

City of Pontiac 2014 Master Plan

2014 MASTER PLAN UPDATE

CITY OF PONTIAC, MICHIGAN
ADOPTED OCTOBER 7, 2014





500 Griswold Avenue, Suite 2500, Detroit, MI 48226
313.961.3650 • www.wadetrim.com

PONTIAC PLANNING COMMISSION

MASTER PLAN UPDATE 2014 RESOLUTION OF APPROVAL

A Public Hearing was held on Tuesday, October 7, 2014, at the Pontiac City Hall by the Pontiac Planning Commission on the proposed 2014 Master Plan;

Moved By Commissioner CHRISTOPHER NORTH CROSS,

Supported by Commissioner HAZEL CADD.

WHEREAS, The City of Pontiac has established a Planning Commission under the Planning Enabling Act, State Public Act 33 of 2008, as amended; and,

WHEREAS, The Pontiac Planning Commission is required by Section 7 of said Act to make and adopt a master plan as a guide for the physical development of the city; and,

WHEREAS, The Pontiac Planning Commission has worked with the Master Plan Steering Committee and the Planning Department to oversee a planning process that included public input as well as investigations and surveys of the existing resources; and,

WHEREAS, The plan was presented to the public at a hearing held on October 7, 2014, before the Planning Commission, with notice of the hearing being provided in accordance with Section 43 of Public Act 33 of 2008, as amended;

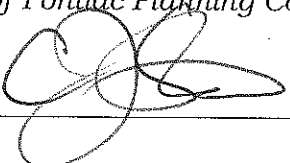
NOW THEREFORE BE IT RESOLVED THAT, The content of this document, together with all maps attached to and contained herein, with the revisions as noted during this meeting, is hereby adopted by the Planning Commission as the City of Pontiac Master Plan, on this 7th day of October, 2014.

AYES: NORTH CROSS, CADD, WATKINSON, PAYNE, THOMAS

NAYS: NONE

ABSENT: FEGLEY

I, C. JAMES SARD, Secretary of the City of Pontiac Planning Commission, do hereby certify the foregoing to be a true and correct copy of a resolution that was offered by the City of Pontiac Planning Commission at a special meeting held on October 7, 2014.



Planning Commission Secretary

MASTER PLAN UPDATE

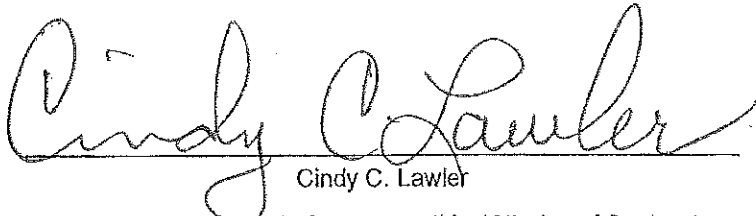
PONTIAC PLANNING COMMISSION NOTICE OF SPECIAL MEETING MASTER PLAN UPDATE PUBLIC HEARING Notice is hereby given of a public hearing to be held by the Pontiac Planning Commission on TUESDAY, OCTOBER 7, 2014 AT 6:00 P.M. in the Council Chambers of City Hall, 47450 Woodward Avenue, Pontiac, Michigan. In accordance with the requirements of Public Act 33 of 2008, the Pontiac Planning Commission will hold a public hearing on the proposed Master Plan Update for 2014. A copy of the proposed Master Plan is available for review at the City of Pontiac website www.pontiac.mi.us or at the Planning Department 47450 Woodward Avenue Pontiac, MI 48342 If you have any questions regarding the above item(s) please call the Department of Building Safety & Planning at 248-758-2800. Written comments must be submitted 24 hours prior to the meeting date for consideration. Individuals who need auxiliary aids for effective communication in programs and services of the City of Pontiac are invited to make their needs and preferences known to the ADA Compliance Coordinator within 72 hours of the event. (9-19)

AFFIDAVIT OF PUBLICATION

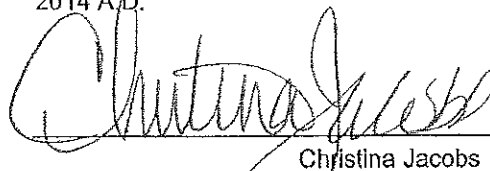
(Affidavit of Publisher)

STATE OF MICHIGAN,
ss.
COUNTY OF OAKLAND

The undersigned, an employee of the publisher of Oakland County Legal News, having knowledge of the facts, being duly sworn deposes and says that a notice, a true copy of which is annexed hereto, was published in Oakland County Legal News a newspaper circulated in Oakland County on September 19, 2014 A.D.


Cindy C. Lawler

Subscribed and sworn before me on this 19th day of September 2014 A.D.


Christina Jacobs

Notary Public Macomb County, Michigan. My commission expires: February 24, 2020 Acting in Oakland County, Michigan.

Attorney: John Naglick OC06439 - John Naglick OC06439

AttorneyFile#:

Notice#: 1206560

Zoning Map

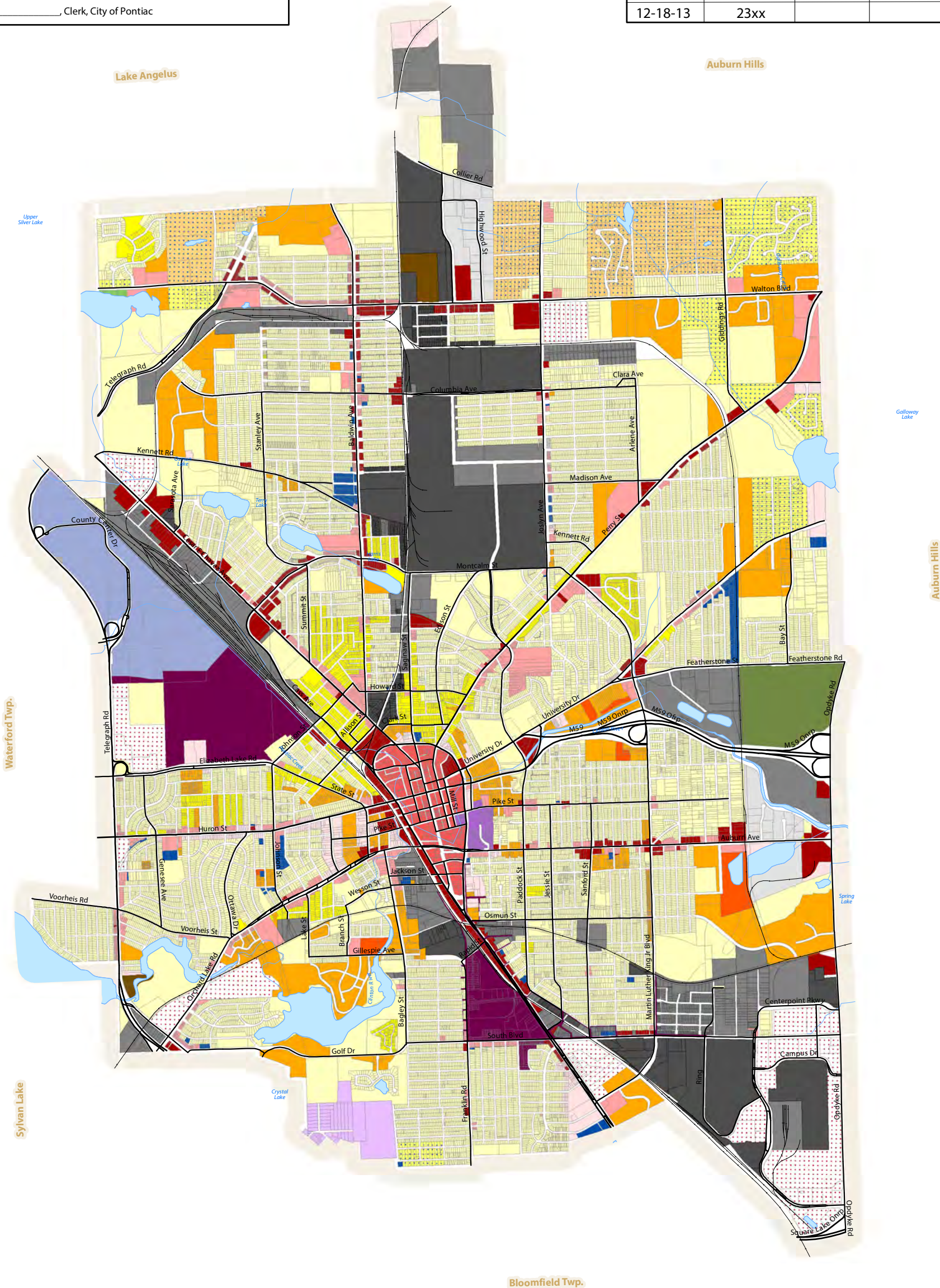
City of Pontiac, Michigan

CERTIFICATION
I, _____, City Clerk, City of Pontiac, do hereby certify that this is a true copy of the map adopted by the Emergency Manager of the City of Pontiac, Oakland County, Michigan, on the _____ day of _____, as well as those amendments made as of the revision dates shown.
_____, Clerk, City of Pontiac

Zoning Map Effective January 2012

Zoning Map Amendments:

Date	Ordinance #	Date	Ordinance #
02-02-12	2250	07-16-14	xxxx
04-17-12	2257	11-26-14	xxxx
03-27-12	2251		
06-22-12	2264		
08-07-12	2269		
12-18-13	23xx		



Residential Districts

- R1A Medium Lot One Family Dwelling
- R1B Large Lot One Family Dwelling
- R-1 One Family Dwelling
- R-2 Two Family and Terrace Family Dwelling
- R-3 Multiple Family Dwelling
- R-4 Multiple Family Dwelling Elevator Apartment
- R-5 Trailer Coach Park
- R-O Recreation Open Space

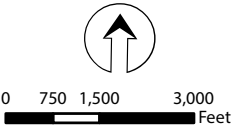
Mixed Use Districts

- C-0 Office Business
- C-1 Local Business
- C-2 Downtown
- C-3 Corridor Commercial
- C4 Suburban Business
- T-C Town Center
- C-C Civic Center
- MUD Mixed Use District
- GOT Government Office Technical District

Other Districts

- IP-1 Industrial Park
- M-1 Light Manufacturing
- M-2 Heavy Manufacturing
- P-1 Parking
- SP Special Purpose

The parcel lines of this map are representational of the actual parcel lines and are not intended to be substituted for an official survey or used to consult official City of Pontiac records for precise distances, boundaries and areas of parcels.



Appendix D

City of Pontiac Groundwater Ordinance 2311



CITY OF PONTIAC
OFFICE OF THE EMERGENCY MANAGER
LOUIS H. SCHIMMEL

47450 Woodward Avenue
Pontiac, Michigan 48342
Telephone: (248) 758-3133
Fax: (248) 758-3292

Dated: August 16, 2013

ORDER NO. S-326

RE: Adopt ordinance to amend the Code of Ordinances of the City of Pontiac by amending Chapter 58, Article VIII to regulate the use of groundwater in certain areas of the City.

TO: Sherikia Hawkins, City Clerk
Charles Smith, Project Manager, Wade Trim

The Local Financial Stability and Choice Act, 2012 PA 436, MCL 141.1541 to 141.1575 ("Act 436") in Section 10(1) states that "[a]n emergency manager shall issue orders to the appropriate local elected and appointed officials and employees, agents, and contractors of the local government the orders the emergency manager considers necessary to accomplish the purposes of [the] act, including, but not limited to, orders for the timely and satisfactory implementation of a financial and operating plan... or to take actions, or refrain from taking actions, to enable the orderly accomplishment of the financial and operating plan." Any such orders are binding on the local elected and appointed officials and employees, agents, and contractors of the local government to whom they are issued.

Section 12(1) of the Act provides that "[a]n emergency manager may take 1 or more of the following additional actions with respect to a local government that is in receivership, notwithstanding any charter provision to the contrary: (dd) [e]xercise solely, for and on behalf of the local government, all other authority and responsibilities of the chief administrative officer and governing body concerning the adoption, amendment, and enforcement of ordinances...."

WHEREAS, Emergency Manager Schimmel introduced the attached emergency ordinance at a public meeting on August 16, 2013; and,

WHEREAS, the Emergency Manager at a public meeting on August 16, 2013 announced that he is adopting the proposed emergency ordinance.

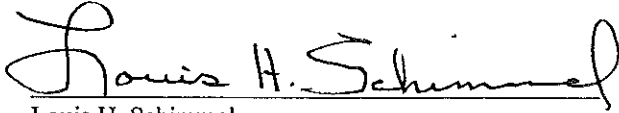
It is hereby ordered:

1. That the attached Ordinance No. 2311, an ordinance to amend the Code of Ordinances of the City of Pontiac by amending Chapter 58, Article VIII to regulate the use of groundwater in certain areas of the City, is adopted.
2. That the City Clerk shall take all actions required under the law to reflect the attached ordinance changes on the City books and records, including publication of the adopted ordinance.

The Order shall have immediate effect.

Copies of the documents referenced in this Order are to be maintained in the offices of the City Clerk and may be reviewed and/or copies may be obtained upon submission of a written request consistent with the requirements of FOIA and subject to applicable or available FOIA exemptions.

This order is effective as indicated and is necessary to carry out the duties and responsibilities required of the Emergency Manager under Act 436 and the contract between the Local Emergency Financial Assistance Loan Board and the Emergency Manager.

A handwritten signature in cursive script, reading "Louis H. Schimmel". The signature is written in dark ink and is positioned above the printed name.

Louis H. Schimmel
City of Pontiac
Emergency Manager

cc: State of Michigan Department of Treasury
Mayor Leon B. Jukowski
Pontiac City Council

Ordinance No. 2311

AN ORDINANCE TO AMEND THE CODE OF ORDINANCES OF THE CITY OF PONTIAC BY AMENDING CHAPTER 58, ARTICLE VIII TO REGULATE THE USE OF GROUNDWATER IN CERTAIN AREAS OF THE CITY.

Whereas, a previously adopted ordinance was subsequently determined by the State of Michigan to be unenforceable.

THE CITY OF PONTIAC ORDAINS:

Section 1. Amendment.

The Code of Ordinances of the City of Pontiac, Michigan is hereby amended by adding Chapter 58, Article VIII entitled "Water Well Restriction" to read as follows:

ARTICLE VIII WATER WELL RESTRICTION.

SEC. 58-600. FINDINGS. The City has been informed and hereby finds that an aquifer in certain areas of the City has been contaminated or otherwise adversely impacted by hazardous substances and that identified public health, safety and welfare risks may affect drinking water drawn from certain areas of such impacted aquifers. The City has determined that it is necessary and appropriate to prohibit and/or otherwise restrict the use of wells to supply water in and from the affected areas in order to protect City residents by minimizing the health, safety and welfare risks and minimizing the potential for migration of contaminated groundwater into presently unaffected groundwater.

SEC. 58-601. DEFINITIONS. The following definitions shall apply to terms used in this Article:

- (1) "Affected Parcel" means a parcel of land, any part of which is located within a Restricted Zone.
- (2) "Applicant" means a person who applies or applied for the establishment of a Restricted Zone pursuant to this Article.
- (3) "City" means the City of Pontiac.
- (4) "City Property" means any interest in real property owned or held by the City and shall include but not be limited to the following: (i) Real property owned by the City; (ii) Real property leased by the City as Lessee; and (iii) City streets, alleys or other City rights-of-way or easements.
- (5) "Contaminated Groundwater" means groundwater in which there is present concentrations of materials that exceed drinking water criteria under the Safe Drinking Water Act, 1976 PA 399, as amended, or the residential drinking water criteria established by the MDEQ in operational memoranda or rules promulgated pursuant to Part 201, Environmental Remediation (MCL 324.20101 *et seq.*), or Part 213, *Leaking Underground*

Storage Tanks (MCL 324.21301a et seq.), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101 et seq., dependent upon whether the release is regulated pursuant to Part 201 or Part 213.

- (6) "Domestic Use" means the use of water by humans for drinking, cooking, food preparation and other food-related services, cleaning, washing, bathing and similar household-type water uses in any dwelling, or in any building in which commercial/business, governmental/public or industrial activities are conducted. The term does not include water used solely for closed-loop heat pumps, non-contact cooling, or production and/or processing purposes of commercial or industrial enterprises.
- (7) "Irrigation Use" means the use of water for lawn, garden, or landscaping irrigation on a residential parcel of land. The term does not include water used for commercial, agricultural or farm irrigation, except as specifically directed by the MDEQ.
- (8) "MDEQ" means the Michigan Department of Environmental Quality, or its successor agency.
- (9) "Owner" means the holder of record title for a parcel of land and also the occupant of a parcel of land in possession under a land contract or lease.
- (10) "Person" means any individual, partnership, corporation, association, club, joint venture, estate, trust, and any other group or combination acting as a unit, and the individuals constituting such group or unit.
- (11) "Restricted Zone" means an area or areas described within Section 58-602 of this Ordinance for which the prohibition of Wells and the use of groundwater applies and includes parcels of land that are legally described in this Ordinance, and as amended from time to time as provided in this Ordinance.
- (12) "WRD" means the Water Resources Division of the MDEQ, or its successor agency.
- (13) "Well" means an opening in the surface of the earth for the purpose of removing fresh water through non-mechanical or mechanical means for any purpose other than a public emergency or conducting response actions that are consistent with the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended ("NREPA"), the Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, or other applicable statute.

SEC. 58-602. RESTRICTED ZONE. The following described areas in the City shall be Restricted Zones under this Article. They may be referred to by reference to the names provided in the caption preceding their descriptions. Additional Restricted Zones, along with a map illustrating the Restricted Zone, may be added by amending the Ordinance in accordance with all applicable laws.

1. **Old Fiero Restricted Zone** – The Old Fiero Restricted Zone consists of three areas:

Area A:

Beginning at the intersection of East Kennett Road and Baldwin Avenue, traveling in an easterly direction to Saint Clair Street, then traveling south on Saint Clair Street to Owens Street. Traveling east on Owens Street to Portland Street, then continuing south on Portland Street to the northern boundary of tax identification number #14-20-255-001. Following the northern boundary of tax identification number #14-20-255-001 to the vacated railroad tracks, then continuing south along the tracks and across Montcalm Avenue for approximately 400 feet to the inlet of Harris Lake. Continuing west along the southern boundary of tax identification number #14-20-256-027 (Harris Lake Park) and the southern boundary of tax identification number #14-20-256-017 to Baldwin Avenue, then continuing north the point of beginning.

Inclusive of:

#14-20-202 Lots 1 through 59, #14-20-252 Lots 75 through 102, #14-20-253 Lots 127 through 158, #14-20-254 Lots 179 through 214, #14-20-255-001 Lots 242 through 244, #14-20-256-026 Lots 264 through 266, #14-20-256-003 Lot 267, #14-20-256-004, #14-20-256-005 Lot 268, #14-20-256-017, #14-20-256-027 (Harris Lake Park).

Area B:

Beginning at the intersection of Saginaw Street and Montcalm Avenue, traveling in an easterly direction to Edison Street, then traveling south on Edison Street. Traveling west on Edison Street to the southern boundary of tax identification number #14-20-426-003 (Assessor's Plat No. 11, Lot 2). Continuing west along the southern boundary of tax identification number #14-20-426-003 (Assessor's Plat No. 11, Lot 2) to Saginaw Street, and then north to the point of beginning.

Inclusive of:

Assessor's Plat No. 11 Lot 2 and 3
Montcalm Avenue

Columbia Avenue Area:

The area along Columbia Avenue consisting of the road area and easement from the railroad line east of Baldwin Avenue extending to approximately 350 feet east of the centerline of E. Highwood Street.

2. **Franklin and Rapid Street Restricted Zone.** The Franklin and Rapid Street Restricted Zone consists of the following described area:

Beginning at the Westerly Right of Way line of Woodward Avenue and the Northerly row line of South Blvd.; Thence traveling west along said right of way line to the Easterly right of way line of Franklin Road; Thence traveling North along said easterly right of way line to a point on the South line of Rapid Street and the Northwest corner of parcel 14-33-302-001; Thence Northeasterly along the South line of Rapid Street to the Northern most point of parcel 14-33-302-001 and the Southerly right of way line of The Railroad; Thence Southeasterly along the Southerly right of way line of The Railroad to the intersection of the Southerly right of way line of Woodward Avenue; Thence Southeasterly along said Southerly right of way line of Woodward Avenue and the Westerly line of Parcel identification number 14-33-351-012 to the point of beginning of Area B.

Inclusive of:

- 14-33-351-001 Lots 1 through 8 (Sachse Addition) and Lot 1 (Assessor's Plat No. 91)
- 14-33-351-012 Lots 2 through 16 (Assessor's Plat No. 91), Lots 1 through 32 (Donaldson Addition), Lots 33-42 (Donaldson Addition No. 16),
- 14-33-302-001 Part of lots 7, 8, and 9, Lots 1 through 6, Lots 10-42 (Rapid Motor Addition)
- 14-33-302-002 Lots 1 through 12 (Assessor's Plat No. 90),
- 14-33-302-003 Lots 11 and 12 (Assessor's Plat No. 90),
- Wilson Avenue.

3. **North Mill Streets Restricted Zone.** The North Mill Street Restricted Zone consists of the following area:

The area encompasses a portion of Mill Street (City of Pontiac property), and is located in the SE ¼ of Section 29, T3N, R10E. The area is bounded by Mill Street and Parcel Number 14-29-283-020 to the north, Parcel Number 14-29-428-002 to the east, University Drive to the south, and Parcel Numbers 14-29-283-020, 14-29-427-004, 14-29-427-012, 14-29-427-007, and 14-29-427-009 to the west.

SEC. 58-603. PROHIBITION. Except as provided in Section 58-604, no person shall install or utilize, or allow, permit, or provide for the installation or utilization of a Well on any Affected Parcel. Any existing Well at the time of the enactment of a Restricted Zone on any Affected Parcel within that Restricted Zone shall be plugged/abandoned at the expense of the Applicant for that particular Restricted Zone and as provided for in Section 58-605 and in accordance with applicable laws, regulations and ordinances, unless such existing Well falls within one of the exceptions listed in Section 58-604. Except as provided in Section 58-604, no person shall use any groundwater from an Affected Parcel.

SEC. 58-604. EXCEPTIONS. A person may install or utilize, or allow, permit, or provide for the installation or utilization of a Well in any Restricted Zone if any of the following exceptions applies and the requirements of the exception are complied with. The party proposing an exception to the Well prohibition shall conduct all appropriate inquiry and prepare a due care analysis pursuant to Part 201 or Part 213 of the NREPA.

- (1) *Proof of No Influence.* If the MDEQ determines based on information provided to it by the person seeking this exception that the use of a Well in a Restricted Zone will not exacerbate existing groundwater contamination, and that water from the proposed Well will not be affected by Contaminated Groundwater, and proof of those determinations is delivered to the City, the Well may be so used.
- (2) *Groundwater Monitoring/Remediation.* A Well may be used for groundwater monitoring and/or remediation as part of a response activity or corrective action approved by the MDEQ or the United States Environmental Protection Agency.
- (3) *Construction Dewatering.* A Well may be used for construction dewatering if the following conditions are satisfied: (i) the use of the dewatering Well will not result in unacceptable exposure to Contaminated Groundwater, possible cross-contamination between saturated zones, or exacerbation of Contaminated Groundwater, as defined in Part 201 of NREPA; and (ii) the water generated by that activity is properly handled and disposed of in compliance with all applicable laws, rules, regulations, permit and license requirements, orders and directives of any governmental entity or agency of competent jurisdiction. Any exacerbation caused by the use of the Well under this exception shall be the responsibility of the person operating the de-watering Well, as provided in Part 201 or Part 213 of NREPA.
- (4) *Processing Activities.* If the MDEQ determines that the use of a Well for non-contact heating, cooling, production, or processing involved in industrial or commercial activities will not cause migration or exacerbation of contaminated Groundwater, and proof of that determination is delivered to the City, such use of the Well under terms and conditions specified by the MDEQ will be allowed. All information necessary for the MDEQ determination described in this subsection shall be provided by the person seeking this exception.
- (1) *Public Emergencies.* A Well may be used in the event of a public emergency. Notice of such use shall be provided to the MDEQ within a reasonable time thereafter.

SEC. 58-605. SOURCES OF WATER SUPPLIED FOR DOMESTIC AND IRRIGATION USE.

- (1) For Affected Parcels that are not already connected to the City water system on the day of enactment of a Restricted Zone, the Applicant of the Restricted Zone shall be responsible for the costs to connect those Affected Parcels within that Restricted Zone to the City water system. Furthermore, for Affected Parcels that have a Well on the day of enactment of a Restricted Zone which is used primarily for Irrigation Uses, the Applicant of the Restricted Zone shall be responsible for the costs to connect the irrigation system on the Affected Parcel within that Restricted Zone to the City water system.

- (2) This Section shall not be deemed as affecting the rights and remedies of an Owner, or any other person or entity and/or of any federal, state or local government that may exist under any law, regulation, rule, ordinance, order, agreement and or/remedial action plan addressing groundwater within the City.
- (3) In no event shall the City be required to incur any expense or cost under this Ordinance, except as may otherwise be approved by the City Council for a public works project or by a separate agreement with the Applicant, Owner, other person or entity, or a governmental body or agency.

SEC. 58-606 ENFORCEMENT. The Mayor, or his/her designee, shall be the official having the authority to enforce this Ordinance. After the Effective Date of this Ordinance, the enforcement official shall contact all Owners of Affected Parcels, which from the information available to the City, appear to have Wells prohibited under this Ordinance (if any), giving written notice of the need to cease using such Wells and of the need for establishment of a Domestic Use water source (to the extent required) as prescribed under Section 58-605, or to obtain approval or acknowledgment of an exception under Section 58-604. The Owner shall immediately take steps so as to comply with the provisions of this Ordinance with regard to provision of Domestic Use water within sixty (60) days from the date of such notice. Any existing Well in violation of this Ordinance shall then be plugged or abandoned in conformance with applicable legal requirements. Where, upon information available to the enforcement official, it is suspected that a Well is being used on an Affected Parcel in violation of this Ordinance, the enforcement official may inspect such Affected Parcel and serve an appropriate notice and order of such violation requiring that action be taken promptly by the Owner to bring the Affected Parcel into compliance. If the Owner fails to act in accordance with such order, the enforcement official may seek remedies and penalties as provided in Section 58-607.

SEC. 58-607. PENALTY. Any person who violates any provision of this Ordinance shall be liable for a municipal civil infraction under the provisions of the Code of Ordinances. In addition, the City may seek an order from a court of appropriate jurisdiction requiring compliance with this Ordinance and may also seek collection of costs and attorney fees associated with such enforcement action. Any violation of this Ordinance is a public nuisance, subject to abatement, and any Well in violation of this Ordinance shall be immediately taken out of service and lawfully abandoned in compliance with applicable legal requirements. A court of competent jurisdiction may order any person violating any provision of this Ordinance to properly and lawfully remove or abandon a Well.

SEC. 58-608. BUILDING AND ZONING PERMITS. No permit for the construction or alteration of a building or structure nor any permit for any zoning approval shall be issued by the City Building and Zoning Administrator for any improvement on an Affected Parcel which has, or proposes, a water supply from a Well in violation of this Ordinance.

SEC. 58-609. ADMINISTRATIVE LIABILITY. No officer, agent or employee of the City or member of the City Council shall render himself or herself personally liable for any damage which may occur to any person or entity as the result of any act or decision performed in the discharge of his or her duties and responsibilities pursuant to the Ordinance.

SEC. 58-610. AMENDMENT; REPEAL. The MDEQ, an Applicant, an Owner, an entity involved in performing remedial actions in order to seek approval of a No Further Action Report under Section 20114d of Part 201 or in performing corrective actions in order to seek approval of a Closure Report under Section 21312a of Part 213 or other interested party may request in writing to add parcels to or delete parcels from a Restricted Zone or to establish an additional Restricted Zone or to otherwise amend or repeal this Ordinance, and shall provide advance notice to the MDEQ and any Applicant for such Restricted Zone of any proposed change hereunder, including the reasons supporting such request. The amendment or repeal of this Ordinance shall be by an appropriate ordinance adopted in the same manner as this Ordinance, and any such action shall be in the sole legislative discretion of the City Council.

SEC. 58-611. NOTIFICATION OF LAPSE, OR INTENT TO AMEND OR REPEAL.

At least thirty (30) days prior to any action regarding a proposed amendment or repeal in whole or in part of this Ordinance, the City shall notify the MDEQ and any Applicant of its intent to so act. The City shall also notify the MDEQ and any Applicant that this Ordinance may lapse at least thirty (30) days prior to the Ordinance being allowed to lapse.

SEC. 58-612. REIMBURSEMENT OF ADDITIONAL CITY CONSTRUCTION COSTS. The Applicant of a Restricted Zone shall reimburse the City for the reasonable additional costs the City incurs for dewatering Contaminated Groundwater or disposing of soils impacted by Contaminated Groundwater in connection with construction activity undertaken by the City on City property in that Restricted Zone, provided that the City supplies the Applicant with documentation confirming the amount and necessity of such additional costs, including the extent to which they exceeded the cost of dewatering or disposing of materials not impacted by Contaminated Groundwater.

Section 2. Severability.

If any section, clause, or provision of this Ordinance shall be declared to be unconstitutional, void, illegal, or ineffective by any Court of competent jurisdiction, such section, clause, or provision declared to be unconstitutional, void, or illegal shall thereby cease to be a part of this Ordinance, but the remainder of this Ordinance shall stand and be in full force and effect.

Section 3. Saving Clause.

A prosecution which is pending on the effective date of this ordinance and which arose from a violation of an ordinance repealed by this ordinance, or a prosecution which is started within one (1) year after the effective date of this ordinance arising from a violation of an ordinance repealed by this ordinance and which was committed prior to the effective date of this ordinance, shall be tried and determined exactly as if the ordinance had not been repealed.

Section 4. Repealer

All Ordinances or parts of Ordinances in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

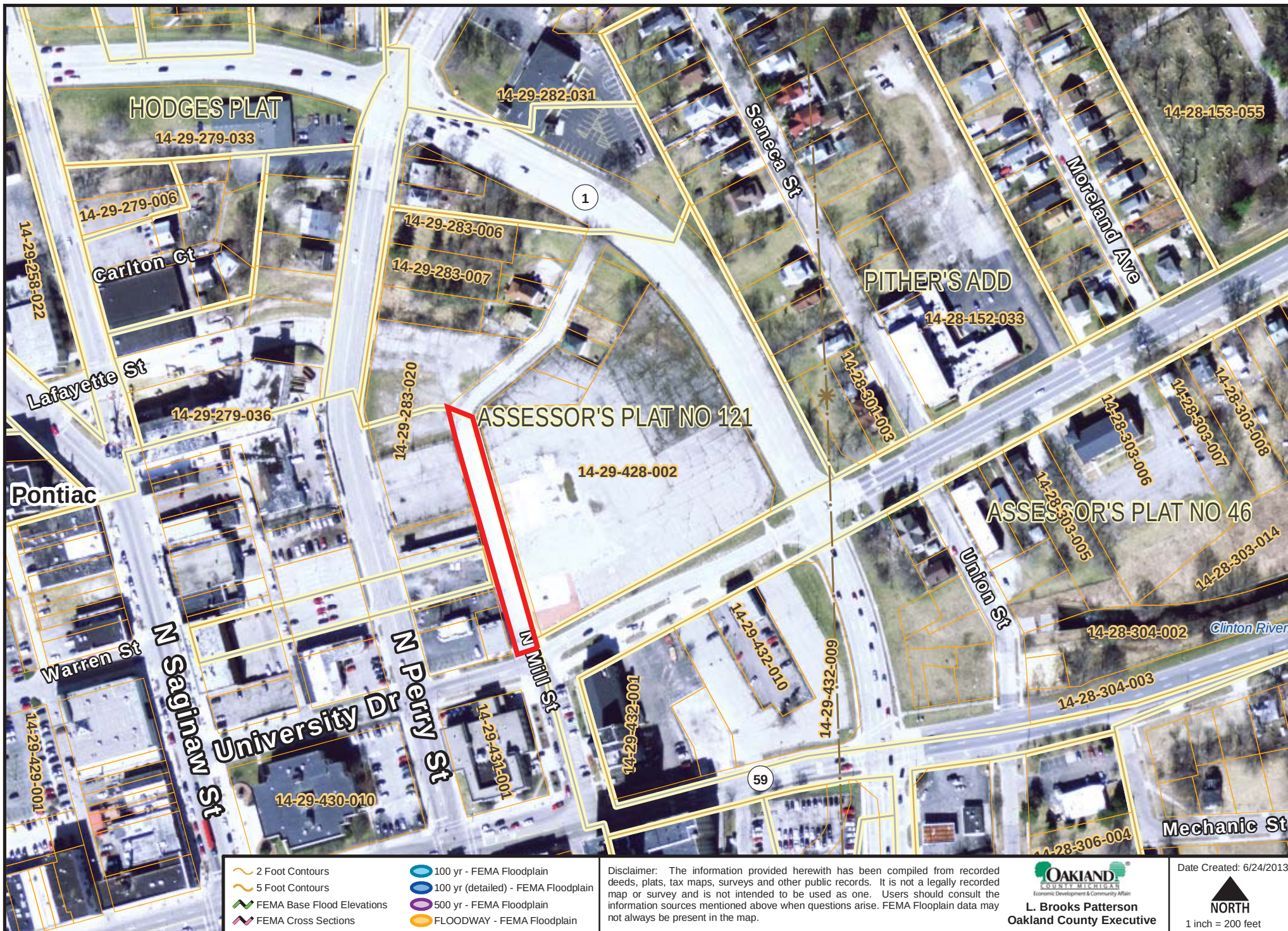
Section 5. Publication and Recording

- (1) The Clerk shall publish this Ordinance in a newspaper of general circulation.
- (2) If the release for which this ordinance or amendment to this ordinance is sought is regulated pursuant to Part 201, then this ordinance or amendment to the ordinance shall be published and maintained in the same manner as zoning ordinances.
- (3) If the release for which this ordinance or amendment to this ordinance is sought is regulated pursuant to Part 213, then the ordinance or amended ordinance shall be filed by the Applicant with the register of deeds as an ordinance affecting multiple properties.

Section 6. Emergency Declaration

This Ordinance is hereby determined to be immediately necessary for the preservation of the public health, safety, and welfare and shall be in full force and effect upon publication as required by law.

NORTH MILL STREET RESTRICTED ZONE



Appendix E

City of Pontiac Well Record

APR 22 1975



NORTHERN COMPANY

INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

☒ TEST☐ PERMANENT

Job No. L-33895

WELL LOG No. 74-A CITY PONTIAC

County OAKLAND

Owner CITY OF PONTIAC

Township PONTIAC

WATER POLLUTION CONTROL

Section 28, T3N, R10E

Location

State MICHIGAN

From Land Description WELL SITE NO. 4, 80' + S. of CLINTON RIVER,

From Street or Road 200' + W. OF EAST BLVD. NORTH & 600' + N. of M-59

SE1/4 NE1/4 NE1/4 Sec 2

FORMATION FOUND - DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
TOPSOIL	0	3	3	
CLAY	3	23	20	
SAND	23	33	10	
SAND & COBBLES W/SOME CLAY	33	38	5	
CLAY W/SAND, GRAVEL & COBBLES	38	53	15	
CLAY, GRAVELLY & COBBLES	53	73	20	
SAND, FINE TO MEDIUM W/SOME GRAVEL	73	93	20	
GRAVEL	93	98	5	
GRAVEL, COARSE TO COARSE SAND	98	118	20	
GRAVELLY SAND W/SOME CEMENTING	118	128	10	
GRAVEL, COARSE	128	133	5	
GRAVELLY SAND	133	148	15	
SAND, COARSE TO FINE	148	153	5	
SAND & GRAVEL, CEMENTED, DIRTY; SOME COBBLES	153	179	26	32'
SAND & GRAVEL W/SOME CLAY, CEMENTED, DIRTY, HEAVES	179	200	21	
CEMENTED GRAVEL, HARD	200	205	5	32'
SAND & GRAVEL, DIRTY	205	211	6	32'
CLAY (STOPPED IN CLAY AT 217')	211	217	6	

ADDED INFO BY DRILLER, ITEM NO. 1
 * CORRECTED BY
 ** ADDITION BY
 ELEVATION
 DEPTH TO ROCK

Hole 8 "Dia Drilled by: { Cable Tool 153'-217' Rotary 0'-153' Jetting
 Reverse Circ. Bucket Auger

Rotary Hole Grouted: Neat Cement Drilling Mud Other

Casing 8 5/8 "OD From "above ground to feet below ground. Weight Pounds per foot

Screen 8 " Set from 180 to 200 feet Make Johnson Type SS Slot .055"

Pumping test GPM drawdown to feet after hours pumping

Date Completed AUGUST, 1974 Driller D. J. EGGLESTON & L. D. COONROD

0550

MAY 23 1977

COPY



NORTHERN COMPANY

INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

0550

☐ TEST☒ PERMANENT

Job No. L34-17

WELL LOG No. 4 CITY PONTIAC

County OAKLAND

Owner CITY OF PONTIAC

Township PONTIAC

WATER POLLUTION CONTROL

Section 28 T3N R10E

Location

State MICHIGAN

From Land Description 80' ± S. OF E CLINTON RIVER, SE 1/4 NE 1/4 NE 1/4 SEC 28

From Street or Road 260' ± W. OF E EAST BLVD, NORTH E 600' ± N. OF M-59

FORMATION FOUND - DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
clay & fill	0	10	10	
gray clay	10	20	10	
brown sand	20	31	11	
clay & rocks	31	53	22	
gravelly clay & stones	53	83	30	
sand & gravel	83	104	21	
clay & stones	104	111	7	
sand, gravel & stones	111	150	39	21'
cemented sand & gravel	150	153	3	
stopped in above @ 153'				
ADDED INFO BY DRILLER, ITEM NO.				
*CORRECTED BY				
**ADDITION BY				
ELEVATION				
DEPTH TO ROCK				

Hole 24 "Dia Drilled by: { Cable Tool _____ Rotary _____ Jetting _____
Reverse Circ. ☒ Bucket _____ Auger _____

Rotary Hole Grouted: Neat Cement _____ Drilling Mud _____ Other ☒

Casing 16 "OD From 12 "above ground to 119 feet below ground. Weight 62.6 Pounds per foot

Screen 16" TEL. Set from 121.5 to 151.5 feet Make LAYNE WESTERN type SS/WW Slot TOP 10' - 155
MID. 10' - 105
BTM. 10' - 80

Pumping test 3002 GPM drawdown to 42.77 feet after 14 hours pumping

Date Completed MARCH 20, 1976 Driller L. COONROD

0550



NORTHERN COMPANY

INDIANAPOLIS • MISHAWAKA • LANSING

Erwin H. A. Stahl, PE

0550

TEST

☒ PERMANENT

Job No. L34

WIRE LOG No. 4 CITY PONTIAC

County OAKLAND

Owner _____ CITY OF PONTIAC

Township PO. TAC

WATER POLLUTION CONTROL

Section 28 T & N R 10E

Location

State MICHIGAN

From Land Description 80' ± S. OF E CLINTON RIVER, SE¹/₄ NE¹/₄ NE¹/₄ S. 28

From Street or Road 260' ± W. OF E EAST BLVD. NORTH ± 600' ± N. OF M-59

FORMATION FOUND — DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	State Water Level
ay & fill	0	10	10	
gray clay	10	20	10	
brown sand	20	31	1	
clay & rocks	31	53	22	
gravelly clay & stones	53	83	3	
sand & gravel	83	104	21	
clay & stones	104	111	7	
sand, gravel & stones	111	150	39	21'
cemented sand & gravel	150	153	3	
stopped in above @ 153'				
ADDED INFO BY DRILLER, ITEM NO.				
*CORRECTED BY				
**ADDITION BY				
ELEVATION				
DEPTH TO ROCK				

Hole 24 "Dia Drilled by: { Cable Tool _____ Rotary _____ Jetting _____
Reverse Circ. ☒ Bucket _____ Auger _____

Rotary Hole Grouted: Neat Cement _____ Drilling Mud _____ Other X

Casing 16 "OD From 12 "above ground to 119 feet below ground. Weight 62.6 Pounds per foot

Screen 16" TEL. Set from 121.5 to 151.5 feet Make LAYNE WESTERN type SS/WW Slot TOP 10' - #155
MID. 10' - #105

Pumping test 3002 GPM drawdown to 42.77 feet after 14 hours pumping

Date Completed MARCH 20, 1976 Driller L. COONROD

0550

JAN 27 1976

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL

County

Oakland

Township Name

Pontiac

Fraction

N 1/4 W 1/4 E 1/4

Section Number

28

Town Number

34

Range Number

10 E/W.

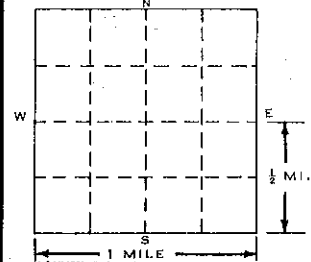
Distance And Direction from Road Intersections

approx. 3/4 mile W. of Joslyn

Street address & City of Well Location

Locate with "X" in section below

Sketch Map:



2 FORMATION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUM

Sand

20

Clay + gravel

25

45

Coarse Sand

6

60

3 OWNER OF WELL:

E.P. Thomas (built)

Address

4 WELL DEPTH: (completed) Date of Completion

50' ft.

10/27/75

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug
☒ Hollow rod ☐ Jetted ☐ Bored ☐

6 USE: ☒ Domestic ☐ Public Supply ☐ Industry
☐ Irrigation ☐ Air Conditioning ☐ Commercial
☐ Test Well ☐

7 CASING: Threaded ☒ Welded ☐Height: Above/Below
Surface 1 ft.

2 in. to 47 ft. Depth
 in. to ft. Depth

Weight lbs./ft.
Drive Shoe? Yes ☒ No ☐

8 SCREEN:

Type: galvanized Dia.: 2"
 Slot/Grate: 10 Length 3'
 Set between 47 ft. and 50 ft.
 Fittings: tailpipe - 2 1/4 couplings.

9 STATIC WATER LEVEL

15 ft. below land surface

10 PUMPING LEVEL below land surface

45 ft. after 2 hrs. pumping 10 g.p.m.

ft. after hrs. pumping g.p.m.

11 WATER QUALITY in Parts Per Million:

Iron (Fe) Chlorides (Cl)

Hardness Other

12 WELL HEAD COMPLETION: ☐ In Approved Pit
☒ Pitless Adapter ☐ 12" Above Grade13 Well Grouted? ☐ Yes ☒ No☐ Neat Cement ☐ Bentonite ☐

Depth: From ft. to ft.

14 Nearest Source of possible contamination

200 feet W. Direction S tank Type

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

☒ Not installed

Manufacturer's Name

Model Number HP Volts

Length of Drop Pipe ft. capacity G.P.M.

Type: ☐ Submersible☐ Jet☐ Reciprocating

16 Remarks, elevation, source of data, etc.

overhead supplied DB
 Meyers Pump (21' drop)
 1/2 H.P. SW (4' W foot valve)
 Meyers tank

17 WATER WELL CONTRACTOR'S CERTIFICATION:

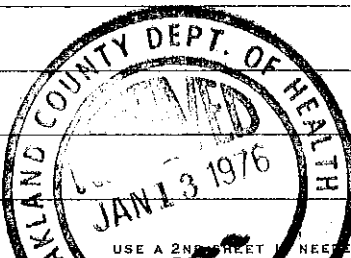
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address 1250 Cherry lawn, Pontiac

Authorized Representative Frank E. Franze Date 10/28/75



Appendix F

Notices of Migration and Notices to Impacted Parties

Transmittal Letter

To:
Mr. Mark J. Hotz
City Attorney
City of Pontiac Law Department
4745 Woodward Avenue
Pontiac, Michigan 48342

Copies

From:
John McKenna

Date:
January 26, 2007

Subject:
Notice of Migration of Contamination

ARCADIS BBL Project No.
64486.003

We are sending you:

- ☒ **Attached** ☐ **Under Separate Cover Via _____ the Following Items:**
- | | | | |
|--|----------------------------------|---|---------------------------------------|
| ☐ Shop Drawings | ☐ Plans | ☐ Specifications | ☐ Change Order |
| ☐ Prints | ☐ Samples | ☐ Copy of Letter | ☐ Reports |
| ☒ Other: _____ | | | |

Copies	Date	Drawing No.	Rev.	Description	Action*
1	1/26/07	NA	NA	Notice of Migration of Contamination	

Action*

- | | | |
|---|--|--|
| ☐ A Approved | ☐ CR Correct and Resubmit | ☐ Resubmit _____ Copies |
| ☐ AN Approved As Noted | ☒ F File | ☐ Return _____ Copies |
| ☐ AS As Requested | ☐ FA For Approval | ☐ Review and Comment |
| ☐ Other: _____ | | |

Mailing Method

- | | | | |
|--|--|--|---|
| ☐ U.S. Postal Service 1 st Class | ☐ Courier/Hand Delivery | ☐ FedEx Priority Overnight | ☐ FedEx 2-Day Delivery |
| ☐ Certified/Registered Mail | ☐ United Parcel Service (UPS) | ☒ FedEx Standard Overnight | ☐ FedEx Economy |
| ☐ Other: _____ | | | |

Comments: Please see attached Notice of Migration of Contamination for General Motors Corporation's Employee Development Center located at 65 East University Drive in Pontiac, Michigan.



WFG – Remediation

General Motors Corporation
Worldwide Building
4800 Woodward Avenue
2000 Corporate Center
Pontiac, MI 48341
U.S.A.

January 26, 2007

Mr. Mark J. Hotz
City Attorney
City of Pontiac Law Department
4745 Woodward Avenue
Pontiac, Michigan 48342

Subject: Notice of Migration of Contamination
General Motors Corporation Employee Development Center
65 East University Drive
Pontiac, Michigan

Mr. Hotz:

General Motors Corporation (GM) hereby provides precautionary notification of laboratory analytical results of samples collected on GM property at its Employee Development Center (Site) located at 65 East University Drive in Pontiac, Michigan.

In November 2006, GM conducted a routine due diligence investigation at the GM Employee Development Center. Based on initial analytical results, ARCADIS G&M of Michigan, LLC (ARCADIS BBL, formerly known as Blasland, Bouck & Lee, Inc.) reported a confirmed release to the Michigan Department of Environmental Quality (MDEQ) on November 14, 2006. The MDEQ assigned Incident Number C-0328-06 to this release case. Based on analytical results from the November investigation, monitoring wells were installed at the Site to determine the extent of groundwater contamination. On behalf of GM, ARCADIS BBL is currently preparing an *Initial Assessment Report* for submittal in accordance with the MDEQ Part 213 regulations. The information reported herein was obtained during the investigation related to the initial assessment activities.

As part of the initial assessment, grab groundwater samples were collected from the completed on-Site soil boring locations in November 2006. In addition, groundwater samples were collected from the on-Site monitoring wells after proper development and following proper groundwater sampling procedures in December 2006. The groundwater flow direction was determined in mid December and is based on water levels collected from the on-Site monitoring wells, which were installed on December 1, 2006. Based on test results, contamination may have migrated under Mill Street and University Drive.

Groundwater laboratory analytical results for the on-Site monitoring wells were received on December 15, 2006. The locations of the groundwater samples described below are depicted on the attached Figure 2. Elevated concentrations of benzene in groundwater were detected in soil boring B-14 and monitoring well MW-3, near Mill Street, in exceedance of the MDEQ Part 201 Residential and Commercial I Drinking Water Criteria (RDW) and Industrial and Commercial II, III, and IV Drinking Water Criteria (IDW). The concentration of benzene in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 Groundwater/Surface Water Protection Criteria (GW/SWI). An elevated concentration of 1,2-dichloroethane was detected in monitoring well MW-3 in exceedance



of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2-dichloropropane was detected in monitoring well MW-3 in exceedance of the MDEQ Part 201 RDW and IDW. Elevated concentrations of ethylbenzene in groundwater were detected in monitoring well MW-3 and soil boring B-14 in exceedance of the MDEQ Part 201 GW/SWI. The concentration of ethylbenzene in soil boring B-14 was also in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of naphthalene in groundwater was detected in soil boring B-14 in exceedance of the MDEQ Part 201 GW/SWI. Tetrachloroethylene was detected in groundwater at an elevated concentration in soil boring B-14 in exceedance of the MDEQ Part 201 RDW and IDW. Trichloroethene was detected in groundwater at an elevated concentration soil boring B-12 in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2,4-trimethylbenzene was detected in monitoring well MW-3 in exceedance of MDEQ Part 201 GW/SWI. Total xylenes were detected in groundwater at elevated concentrations in soil boring B-14 and monitoring well MW-3 in exceedance of the MDEQ Part 201 GW/SWI. The concentration of total xylenes in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 RDW and IDW.

Trichloroethene was also detected in groundwater at elevated concentrations in monitoring well MW-5 and soil boring B-2, near University Drive, in exceedance of the MDEQ Part 201 RDW and IDW. Groundwater analytical results from other soil borings and monitoring wells near the property boundary indicated no exceedances of MDEQ Part 201 criteria.

A table listing the maximum levels of constituents detected in groundwater above MDEQ criteria and concentrations in groundwater sampled closest to the GM property boundary are attached. In addition, the locations of the groundwater samples described above are depicted on the attached Figure 2. GM is required to notify the City of Pontiac of the presence of these concentrations that are potentially migrating onto City property under Rule 299.51017 of NREPA Part 201 and Part 213.

GM's Remediation Team believes that no residents are affected by elevated constituent levels in the groundwater, if present, because it is understood that all occupants are connected to the city's water supply. GM plans to install additional monitoring wells along the Site's southern and western boundaries. In addition, GM plans to install monitoring wells off-Site to delineate the extent of groundwater contamination. Groundwater samples collected from off-Site monitoring wells would be to confirm if groundwater contamination has migrated off-Site.

We are committed to protecting the health and safety of our neighbors, and we appreciate your assistance and cooperation as we continue to conduct the investigation. If you have any questions regarding the enclosed information, please contact me at 248-753-5790.

Sincerely,

A handwritten signature in cursive script that reads "Fred Rindhage".

Fred Rindhage
Program Manager

Enclosures

cc: B. Saunders/ARCADIS BBL
J. McKenna /ARCADIS BBL
L. Alkidas/ARCADIS BBL

Column A
Column B
Column C
Column D
Column E
Column F
Column G
Column H

Name of hazardous substance.

Chemical Abstract Service (CAS) Number for the hazardous substance.

Maximum hazardous substance concentration measured on the property, expressed in parts per billion (e.g., ug/L or ug/Kg) Report maximum concentration separately for each environmental medium.

Sample location for Column C (relate to label on map).

Environmental medium in which concentration reported in Column C was measured (e.g., soil or groundwater).

Distance from point of maximum measured concentration (Column D) to property boundary, in direction of contaminant migration, if direction is known or can reasonably be inferred. If direction is unknown, list distance to nearest property boundary.

Direction of contaminant migration, if known.

Concentration closest to property boundary, if known. If a concentration lower than the maximum concentration reported in Column C has been measured at a point closer to the property boundary in the direction of contaminant migration, use Column I to list the concentration that was measured closest to the property boundary in the direction of contaminant migration.

Sample location for Column H (relate to label on map).

Environmental medium for measurement reported in Column H, if applicable

A Hazardous Substance	B CAS Number	C Maximum Concentration	D Sample Location for "C"	E Environmental Medium for "C"	F Distance to Property Boundary	G Direction of Migration	H Boundary Concentration	I Sample Location for "H"	J Environmental Medium for "H"
Benzene	71-43-2	7,200 ug/L	B-9	Groundwater	60 feet	South	37 ug/L & 3,000 ug/L	B-14 & MW-3	Groundwater
1,2-Dichloroethane	107-06-02	39 ug/L	B-16	Groundwater	117 feet	South	14 ug/L	MW-3	Groundwater
1,2-Dichloropropane	78-87-5	140 ug/L	MW-3	Groundwater	15 feet	West	140 ug/L	MW-3	Groundwater
Ethylbenzene	100-41-4	4,100 ug/L	B-21	Groundwater	46.5 feet	South	54 ug/L & 130 ug/L	MW-3 & B-14	Groundwater
Naphthalene	91-20-3	320 ug/L	B-16	Groundwater	117 feet	South	27 ug/L	B-14	Groundwater
Tetrachloroethylene	127-18-4	8 ug/L	B-14	Groundwater	15 feet	West	8 ug/L	B-14	Groundwater
Trichloroethene	79-01-6	100 ug/L	B-2	Groundwater	69 feet	South	11 ug/L & 17 ug/L & 100 ug/L & 40 ug/L	MW-5 & B-12 & B-2	Groundwater
1,2,4-Trimethylbenzene	95-63-6	2,800 ug/L	B-21	Groundwater	46.5 feet	South	40 ug/L	MW-3	Groundwater
Xylenes, Total	95-47-6 108-38-3 106-42-3	18,900 ug/L	B-21	Groundwater	46.5 feet	South	267 ug/L & 327 ug/L	B-14 & MW-3	Groundwater

Total Number Samples Collected 12 (naphthalene) & 19 (VOCs) Total Number of Samples Exceeding Criteria 7 (naphthalene) & 13 (VOCs)

BR-05-RFS LAYER, On=, OF=REF*
J:\2007\64486003\64486002.dwg, SAYED, 1/16/2007 2:45 PM, LAYOUT 2, PAGES: 1/16, PRINTED 1/16/2007 2:45 PM BY AOK
PROJECT NAME: 64486002
SHEET: 1



Transmittal Letter

To:
Southeast Michigan District Office
Remediation and Redevelopment Division
27700 Donald Court
Warren, MI 48092-2793

Copies:

From:
John McKenna

Date:
January 26, 2007

Subject:
Notice of Migration of Contamination

ARCADIS BBL Project No.:
64486.003

We are sending you:

- ☒ Attached ☐ Under Separate Cover Via _____ the Following Items:
- ☐ Shop Drawings ☐ Plans ☐ Specifications ☐ Change Order
☐ Prints ☐ Samples ☐ Copy of Letter ☐ Reports
☒ Other: _____

Copies	Date	Drawing No.	Rev.	Description	Action*
1	1/26/07	NA	NA	Notice of Migration of Contamination	

Action*

- ☐ A Approved ☐ CR Correct and Resubmit ☐ Resubmit _____ Copies
☐ AN Approved As Noted ☒ F File ☐ Return _____ Copies
☐ AS As Requested ☐ FA For Approval ☐ Review and Comment
☐ Other: _____

Mailing Method

- ☐ U.S. Postal Service 1st Class ☐ Courier/Hand Delivery ☐ FedEx Priority Overnight ☐ FedEx 2-Day Delivery
☐ Certified/Registered Mail ☐ United Parcel Service (UPS) ☒ FedEx Standard Overnight ☐ FedEx Economy
☐ Other: _____

Comments: Please see attached Notice of Migration of Contamination for General Motors Corporation's Employee Development Center located at 65 East University Drive in Pontiac, Michigan.



WFG – Remediation

General Motors Corporation
Worldwide Facilities Group
463 520 1500
2000 Pontiac Point Parkway
Warren, MI 48090
U.S.A.

January 26, 2007

Southeast Michigan District Office
Remediation and Redevelopment Division
Michigan Department of Environmental Quality
27700 Donald Court
Warren, MI 48092-2793

Subject: Notice of Migration of Contamination
General Motors Corporation Employee Development Center
65 East University Drive
Pontiac, Michigan

Dear Sir/Madam:

General Motors Corporation (GM) hereby provides completed forms EQP 4482 (Rev 10/2003) to advise of contaminant migration pursuant to Part 201 and Part 213 of Act 451. This information is provided to satisfy obligations pursuant to R 299.51017.

In November 2006, GM conducted a routine due diligence investigation at the GM Employee Development Center (Site). Based on initial analytical results, ARCADIS G&M of Michigan, LLC (ARCADIS BBL, formerly known as Blasland, Bouck & Lee, Inc.) reported a confirmed release to the Michigan Department of Environmental Quality (MDEQ) on November 14, 2006. The MDEQ assigned Incident Number C-0328-06 to this release case. Based on analytical results from the November investigation, monitoring wells were installed at the Site to determine the extent of groundwater contamination. On behalf of GM, ARCADIS BBL is currently preparing an *Initial Assessment Report (IAR)* for submittal in accordance with the MDEQ Part 213 regulations. The information reported herein was obtained during the investigation related to the initial assessment activities.

As part of the initial assessment, grab groundwater samples were collected from the completed on-Site soil boring locations in November 2006. In addition, groundwater samples were collected from the on-Site monitoring wells after proper development and following proper groundwater sampling procedures in December 2006. The groundwater flow direction was determined in mid December and is based on water levels collected from the on-Site monitoring wells, which were installed on December 1, 2006. Based on test results, contamination may have migrated under Mill Street and University Drive.

Groundwater laboratory analytical results for the on-Site monitoring wells were received on December 15, 2006. The locations of the groundwater samples described below are depicted on the attached Figure 2. Elevated concentrations of benzene in groundwater were detected in soil boring B-14 and monitoring well MW-3, near Mill Street, in exceedance of the MDEQ Part 201 Residential and Commercial I Drinking Water Criteria (RDW) and Industrial and Commercial II, III, and IV



Drinking Water Criteria (IDW). The concentration of benzene in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 Groundwater/Surface Water Protection Criteria (GW/SWI). An elevated concentration of 1,2-dichloroethane was detected in monitoring well MW-3 in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2-dichloropropane was detected in monitoring well MW-3 in exceedance of the MDEQ Part 201 RDW and IDW. Elevated concentrations of ethylbenzene in groundwater were detected in monitoring well MW-3 and soil boring B-14 in exceedance of the MDEQ Part 201 GW/SWI. The concentration of ethylbenzene in soil boring B-14 was also in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of naphthalene in groundwater was detected in soil boring B-14 in exceedance of the MDEQ Part 201 GW/SWI. Tetrachloroethylene was detected in groundwater at an elevated concentration in soil boring B-14 in exceedance of the MDEQ Part 201 RDW and IDW. Trichloroethene was detected in groundwater at an elevated concentration in soil boring B-12 in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2,4-trimethylbenzene was detected in monitoring well MW-3 in exceedance of MDEQ Part 201 GW/SWI. Total xylenes were detected in groundwater at elevated concentrations in soil boring B-14 and monitoring well MW-3 in exceedance of the MDEQ Part 201 GW/SWI. The concentration of total xylenes in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 RDW and IDW.

Trichloroethene was also detected in groundwater at elevated concentrations in monitoring well MW-5 and soil boring B-2, near University Drive, in exceedance of the MDEQ Part 201 RDW and IDW. Groundwater analytical results from other soil borings and monitoring wells near the property boundary indicated no exceedances of MDEQ Part 201 criteria.

GM's Remediation Team believes that no residents are affected by elevated constituents in the groundwater, if present, it is understood that all occupants are connected to the city's water supply. After the completion of the IAR, GM plans to install additional monitoring wells along the Site's southern and western boundaries. In addition, GM plans to install monitoring wells off-Site to delineate the extent of groundwater contamination. Groundwater samples collected from off-Site wells would be to confirm if groundwater contamination has migrated off-Site.

If you have any questions regarding the enclosed information, please contact me at 248-753-5790.

Sincerely,

A handwritten signature in cursive script that reads "Fred Rindhage".

Fred Rindhage
Program Manager

Enclosures:

cc: B. Saunders/ARCADIS BBL
J. McKenna /ARCADIS BBL
L. Alkidas/ARCADIS BBL



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDATION AND REDEVELOPMENT DIVISION

For DEQ Use Only
ITS # _____
Site ID # _____
Category Code: _____

NOTICE OF MIGRATION OF CONTAMINATION

(Under the authority of Part 201, Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, (NREPA) and the Rules promulgated thereunder)

An owner or operator of property that is a facility, and/or who is subject to MCL 324.20114, and who has reason to believe that a hazardous substance is emanating from, has emanated from, or is likely to be emanating from the property and migrating beyond the boundaries of the property that he or she owns or operates is required under R 299.5522 and R 299.51017(1) to notify the Michigan Department of Environmental Quality ("DEQ") and affected property owners, unless he or she is exempt from MCL 324.20107a (see MCL 324.20107a(4) for exemptions), or unless he or she has provided the notice required by MCL 324.21309a. Submission of this notice does not fulfill the notification requirements of MCL 324.21309a.

The notice must be provided within 45 days after the owner or operator has reason to believe that hazardous substances have migrated, or are likely to have migrated, to or beyond the boundary of his or her property (see R 299.51017 and R 299.5522 for exceptions). If a person is required to provide additional notice as a result of the changes in R 299.51017 that took effect on December 21, 2002, then that additional notice shall be provided not later than September 21, 2003.

Use of this form is mandatory for the notice required by R 299.51017(1) and may also be used by parties subject to MCL 324.20114 to provide notice required by R 299.5522. This form may also be used to provide notice to affected property owners as required by those rules.

If a person holds a permit for an oil and gas well under Part 615, Supervisor of Wells, of the NREPA and there is a release from the oil and gas exploration or production activities, that person shall give notice to the DEQ and to the owner of the surface rights of the property.

If a person holds an easement and there is a release from the easement holder's activities, that person shall provide notice to the DEQ and to the grantor of the easement, or the grantor's successor in interest, if any.

Completing this notice in no way relieves a person who is subject to MCL 324.20114 from the responsibility to undertake required response activities.

This notice must be sent to the DEQ office that serves the county in which the property is located. A list of DEQ offices is available at www.michigan.gov/bea, or by calling the Remediation and Redevelopment's Lansing office at 517-373-9837. The DEQ will not prepare acknowledgement of receipt of these notices. The sender is responsible for sending the report using a method that provides proof of delivery if such proof is desired. Please label the outside of the envelope "Migration Notice." Additional guidelines for the compliance with the requirements of R 200.51017(1) or R 299.5522 are available at www.michigan.gov/bea.

THIS NOTICE IS PROVIDED PURSUANT TO:

(check both, if applicable)

R 299.5522

☐

R 299.51017

☒

Please provide the following information as completely as possible.

1. Name and location of the property that hazardous substances are emanating from:

Name: GM Employee Development Center

Address: 65 East University Drive

Location: Pontiac, Michigan 48342

City/County: Pontiac/Oakland

Property Tax Identification Number, or if applicable, the ward and item number:

2. Status relative to the property:

(Check one or both, as applicable.)

Owner

☒

Operator

☒

Provide any additional ID numbers associated with the property (e.g., EPA ID No., BEA No., Part 213 facility ID No., etc.):
Facility ID: 00015260

3. Name, address, and telephone number of the property owner, operator, or other party submitting the notice:

Name: General Motors Corporation
Address: 2000 Centerpoint Parkway, Mail Code: 483-520-190
City/State: Pontiac, Michigan 48341
Telephone number: (248) 753-5790

4. Name, address and telephone number of a contact person familiar with the content of the notice:

Name: Fred Rindhage (General Motors Corporation)
Address: 2000 Centerpoint Parkway, Mail Code: 483-520-190
City/State: Pontiac, Michigan 48341
Telephone: (248) 753-5790

5. If this Notice is provided pursuant to R 299.51017, provide the address and other location information for the *adjacent* property(s) onto which contamination is migrating, has migrated, or is likely to migrate. If this Notice is provided pursuant to R 299.5522, provide the address and other location information for *each* property onto which contamination has migrated. Notice should be sent to the property owner of record. If the impacted property is owned by the State of Michigan, notice should be sent to the department managing the property (i.e. a prison, state park, etc.). Notices to the Michigan Department of Transportation (MDOT) for state owned roadways should be sent to Ms. Heather Hicks, MDOT-Bureau of Transportation Planning, 425 W. Ottawa Street, P.O. Box 30050, Lansing, MI 48989. If it isn't readily apparent what state department manages the property, notices should be sent to Mr. Thomas Saxton, Tenant and Land Services, Department of Management and Budget, 1st Floor Lewis-Cass Building, P.O. Box 30026, Lansing, MI 48909.

Mr. Mark J. Hotz, City of Pontiac Attorney
Address: 4745 Woodward Ave.
City/State: Pontiac, MI 48342
Property Tax ID number:
Other:

Notified? No ☐ Yes ☒ Date: 01/26/07

Address:
City/State:
Property Tax ID number:
Other:

Notified? No ☐ Yes ☐ Date:

Address:
City/State:
Property Tax ID number:
Other:

Notified? No ☐ Yes ☐ Date:

Address:
City/State:
Property Tax ID number:
Other:

Notified? No ☐ Yes ☐ Date:

Address:
City/State:
Property Tax ID number:
Other:

Notified? No ☐ Yes ☐ Date:

(Attach additional pages as needed)

6. Complete the Table on Page 3 of this Form for each hazardous substance which has migrated, or is likely to have migrated, beyond the property boundary at a concentration that exceeds a Generic Residential Cleanup Criterion developed by the DEQ pursuant to MCL 324.20120a(1). Complete and attach additional copies of Page 3, if necessary, to list all hazardous substances that must be reported. Include a scaled map or drawing that shows the location of sampling points identified on the Table on Page 3, the property boundaries, and the adjacent property owners if providing notice pursuant to R 299.1017(1) or all impacted property owners if providing notice pursuant to Rule 299.5522.

The completed table and map indicating groundwater sample locations are attached.

7. Provide a summary of the information which shows that contamination is emanating from, or has emanated from, and is present beyond the boundary of the source property at a concentration which exceeds that allowed by MCL 324.20120a(1)(a). This summary shall identify the environmental media affected, specific hazardous substances, and the concentrations of those hazardous substances in all affected environmental media at the property boundary and in any sample locations beyond the property boundary. The summary shall also describe the basis for the conclusion that the contamination is emanating, has emanated, or is present beyond the boundary of the source property, including whether the conclusion is based on groundwater analytical data or fate and transport modeling, both, or neither.

General Motors Corporation (GM) is investigating releases of petroleum products and hazardous constituents at the GM Employee Development Center located in Pontiac, Michigan. As part of due diligence investigation activities, groundwater samples were collected throughout the GM Employee Development Center property. Elevated concentrations of benzene in groundwater were detected in soil boring B-14 (37 ug/L) and monitoring well MW-3 (3,000 ug/L) in exceedance of the Michigan Department of Environmental Quality (MDEQ) Part 201 Residential and Commercial I Drinking Water Criteria (RDW) and Industrial and Commercial II, III, and IV Drinking Water Criteria (IDW). The concentration of benzene in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 Groundwater/Surface Water Protection Criteria (GW/SWI). An elevated concentration of 1,2-dichloroethane was detected in monitoring well MW-3 (14 ug/L) in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2-dichloropropane was detected in monitoring well MW-3 (140 ug/L) in exceedance of the MDEQ Part 201 RDW and IDW. Elevated concentrations of ethylbenzene in groundwater were detected in monitoring well MW-3 (54 ug/L) and soil boring B-14 (130 ug/L) in exceedance of the MDEQ Part 201 GW/SWI. The concentration of ethylbenzene in soil boring B-14 was also in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of naphthalene (27 ug/L) in groundwater was detected in soil boring B-14 in exceedance of the MDEQ Part 201 GW/SWI. Tetrachloroethylene was detected in groundwater at an elevated concentration of 8 ug/L in soil boring B-14 in exceedance of the MDEQ Part 201 RDW and IDW. Trichloroethene was detected in groundwater at elevated concentrations in monitoring well MW-5 (11 ug/L), soil boring B-12 (17 ug/L), and soil boring B-2 (100 ug/L) in exceedance of the MDEQ Part 201 RDW and IDW. An elevated concentration of 1,2,4-trimethylbenzene was detected in monitoring well MW-3 (40 ug/L) in exceedance of MDEQ Part 201 GW/SWI. Total xylenes were detected in groundwater at elevated concentrations in soil boring B-14 (267 ug/L) and monitoring well MW-3 (327 ug/L) in exceedance of the MDEQ Part 201 GW/SWI. The concentration of total xylenes in monitoring well MW-3 was also in exceedance of the MDEQ Part 201 RDW and IDW. Groundwater analytical results from other soil borings and monitoring wells near the property boundary indicated no exceedances of MDEQ Part 201 criteria.

GM's Remediation Team believes that no residents are affected by elevated constituents in the groundwater, if present, because it is understood that all occupants are connected to the city's water supply. Based on the groundwater analytical results and groundwater flow direction determined by onsite monitoring wells, GM has notified the City of Pontiac regarding a migration of groundwater contamination. The attached Figure 2 indicates the groundwater sampling locations.

8. If the person making this notice has reason to believe that a migrating hazardous substance has affected, or is likely to affect, a private or public water supply, then that water supply must be identified here:

Not Applicable

9. Is this notice being submitted within the timeframes established under 299.51017, as applicable?

YES



NO



R 299.5522 and/or R

10. Is this notice in addition to a notice submitted prior to *December 21, 2002*? (R 299.51017(4)(c)) ☐ ☒
11. Is this notice related to an oil and gas well permit (R 299.51017(2))? Permit #: ☐ ☒
12. Is this notice related to an easement (R 299.51017(3))? (NOTE: All easement grantors *must* receive this notice.) ☐ ☒
13. Has surface water been affected (R 299.51017(1) and R 299.5522(2))? (If yes, please identify the affected surface water body.) ☐ ☒

CERTIFICATION:

With my signature below, I certify that I am the owner of the facility or that I am legally authorized to execute this notice on behalf of the owner or operator named on this form, and that to the best of my knowledge and belief the above representations are complete and accurate. I understand that intentionally submitting false information to the DEQ is a felony and may result in fines up to \$25,000 for each violation.

Signature Fred W. Rindhage
(Owner or person legally authorized to bind the person making this report)

Date 1-26-07

Name (Typed or Printed) Fred W. Rindhage

Title (Typed or Printed) Program Manager

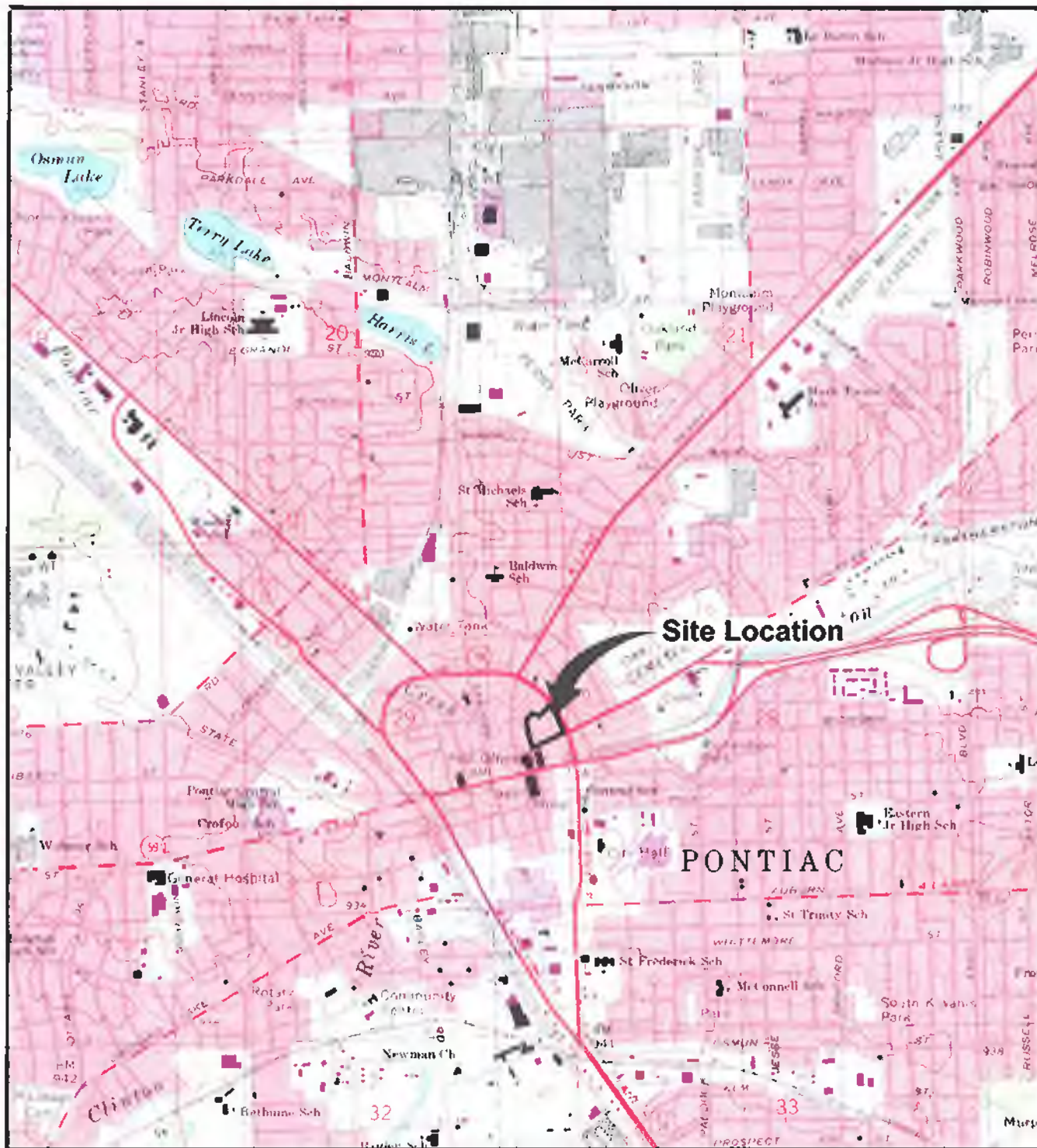
See Item 6 on Page 2 of this Form for instructions to be used in completing this Table. Attach additional pages if necessary. The information to be included in each column of the Table is:

- Column A Name of hazardous substance.
 Column B Chemical Abstract Service (CAS) Number for the hazardous substance.
 Column C Maximum hazardous substance concentration measured on the property, expressed in parts per billion (e.g., ug/L or ug/Kg). Report maximum concentration separately for each environmental medium.
 Column D Sample location for Column C (relate to label on map).
 Column E Environmental medium in which concentration reported in Column C was measured (e.g., soil or groundwater).
 Column F Distance from point of maximum measured concentration (Column D) to property boundary, in direction of contaminant migration, if direction is known or can reasonably be inferred. If direction is unknown, list distance to nearest property boundary.
 Column G Direction of contaminant migration, if known.
 Column H Concentration closest to property boundary, if known. If a concentration lower than the maximum concentration reported in Column C has been measured at a point closer to the property boundary in the direction of contaminant migration, use Column I to list the concentration that was measured closest to the property boundary in the direction of contaminant migration.
 Column I Sample location for Column H (relate to label on map).
 Column J Environmental medium for measurement reported in Column H, if applicable.

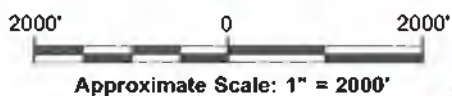
A Hazardous Substance	B CAS Number	C Maximum Concentration	D Sample Location for "C"	E Environmental Medium for "C"	F Distance to Property Boundary	G Direction of Migration	H Boundary Concentration	I Sample Location for "H"	J Environmental Medium for "H"
Benzene	71-43-2	7,200 ug/L	B-9	Groundwater	60 feet	South	37 ug/L & 3,000 ug/L	B-14 & MW-3	Groundwater
1,2-Dichloroethane	107-06-02	39 ug/L	B-16	Groundwater	117 feet	South	14 ug/L	MW-3	Groundwater
1,2-Dichloropropane	78-87-5	140 ug/L	MW-3	Groundwater	15 feet	West	140 ug/L	MW-3	Groundwater
Ethylbenzene	100-41-4	4,100 ug/L	B-21	Groundwater	46.5 feet	South	54 ug/L & 130 ug/L	MW-3 & B-14	Groundwater
Naphthalene	91-20-3	320 ug/L	B-16	Groundwater	117 feet	South	27 ug/L	B-14	Groundwater
Tetrachloroethylene	127-18-4	8 ug/L	B-14	Groundwater	15 feet	West	8 ug/L	B-14	Groundwater
Trichloroethene	79-01-6	100 ug/L	B-2	Groundwater	69 feet	South	11 ug/L & 17 ug/L & 100 ug/L &	MW-5 & B-12 & B-2	Groundwater
1,2,4-Trimethylbenzene	95-63-6	2,800 ug/L	B-21	Groundwater	46.5 feet	South	40 ug/L	MW-3	Groundwater
Xylenes, Total	95-47-6 108-38-3 106-42-3	18,900 ug/L	B-21	Groundwater	46.5 feet	South	267 ug/L & 327 ug/L	B-14 & MW-3	Groundwater

Total Number Samples Collected: 12 (naphthalene) & 19 (VOCs) Total Number of Samples Exceeding Criteria: 7 (naphthalene) & 13 (VOCs)

A scaled map or drawing showing these locations and the property boundaries must be submitted with this Notice



REFERENCE: Base Map Source: USGS 7.5 Min. Topo. Quads., Pontiac North, Michigan, 1971.



GENERAL MOTORS CORPORATION
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE LOCATION MAP

ARCADIS BBL
infrastructure, environment, facilities

FIGURE
1

BR-05-RFS LAYER, Dwg, OF-REF*
J:\2007\64486003\64486002.dwg, SAYED, 1/16/2007 2:45 PM, LAYOUT 2, PAGES: 1/16, PRINTED 1/16/2007 2:45 PM BY AOK
PROJECT NAME: 64486002
SHEET: 1/16



City of Pontiac
Department of Public Works
Attention: Terrance King
47450 Woodward Ave, 1st Floor
Pontiac, MI 48341

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Mr. King:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to

Terrance King
May 4, 2016

surface water pathways have been observed in on-site monitoring points associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associated Project Manager

Copies:

Mr. David Favero, RACER Trust

Water Resource Commission

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: City of Pontiac Public Works Attention Terrance King

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 47450 Woodward Ave, 1 st Floor

CITY: Pontiac

STATE: MI

ZIP: 48341

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

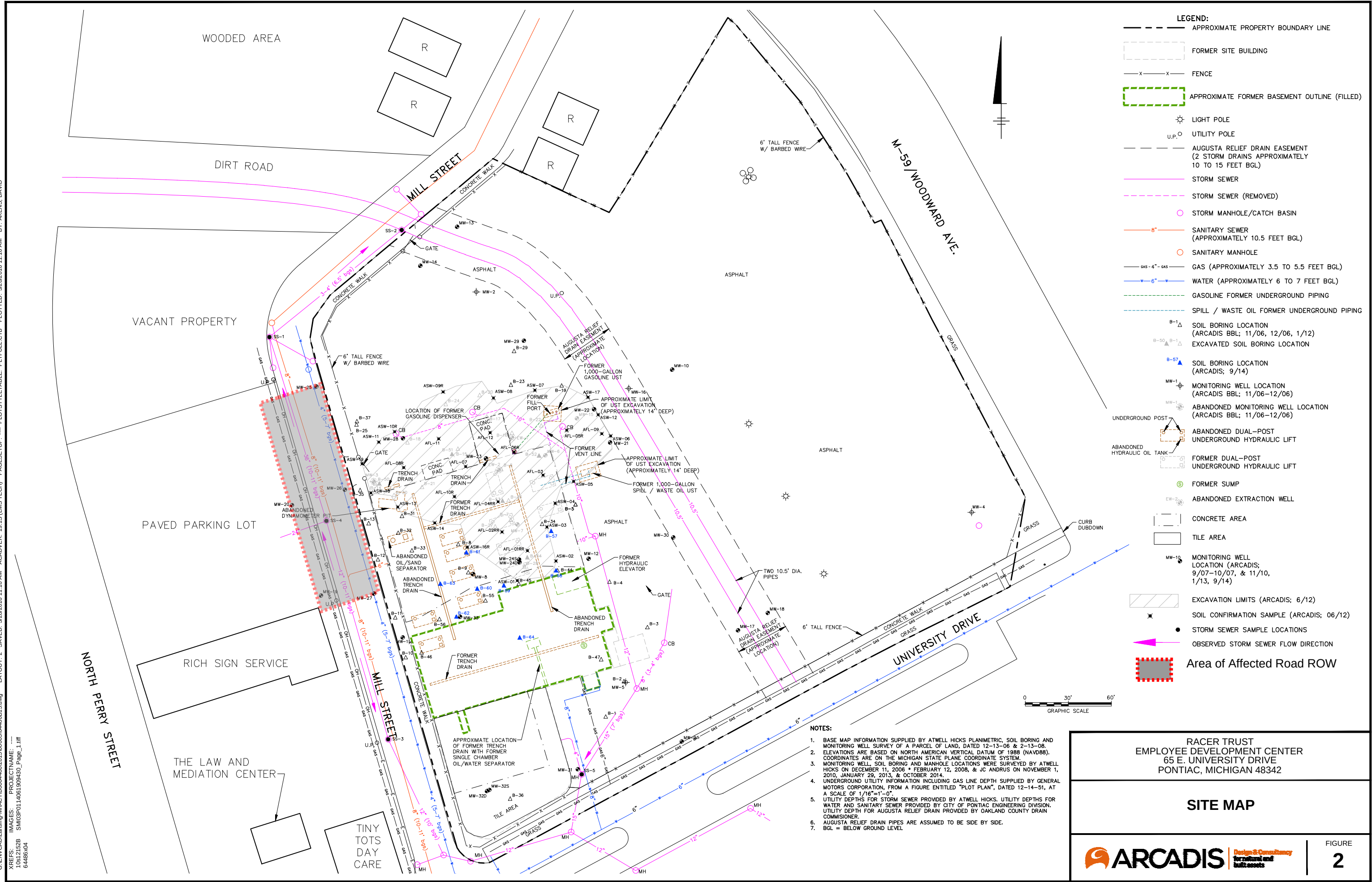
This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.

CITY: BRIGHTON DIV: GROUP 85 DE: ADF LD: (Opt) PM: (Reqd) TM: (Opt) LY: (Opt) ONE: "OFF" REF: G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg LAYOUT: 2 SAVED: 3/29/2016 11:16 AM ACADVER: 19.1S (LWS TECH) PAGES: 19.1S (LWS TECH) PLOT: 3/28/2016 11:16 AM BY: AKENS, DAVID
XREFS: IMAGES: PROJECTNAME: " " S:\MID\30114061909430_Page_1.tif 64486x04



RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE MAP





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266724488**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	S.MCCRAW	Delivery location:	47450 WOODWARD AVE PONTIAC, MI 48341
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:45
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	776266724488	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:

Terrance King
City of Pontiac - DPW
47450 Woodward Ave
1st Floor
PONTIAC, MI 48341 US

Reference

Purchase order number:

Invoice number

Shipper:

Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

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Consumers Energy
1 Energy Plaza
Land Development Seventh Floor
Jackson, MI 49201

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Sir/Madam:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in on-site monitoring points

James Wineka
May 4, 2016

associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associate Project Manager

Copies:

Mr. David Favero, RACER Trust

City of Pontiac DPW

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: Consumers Energy Land Department

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 1 Energy Plaza, Land Department Seventh Floor

CITY: Jackson

STATE: MI

ZIP: 49201

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

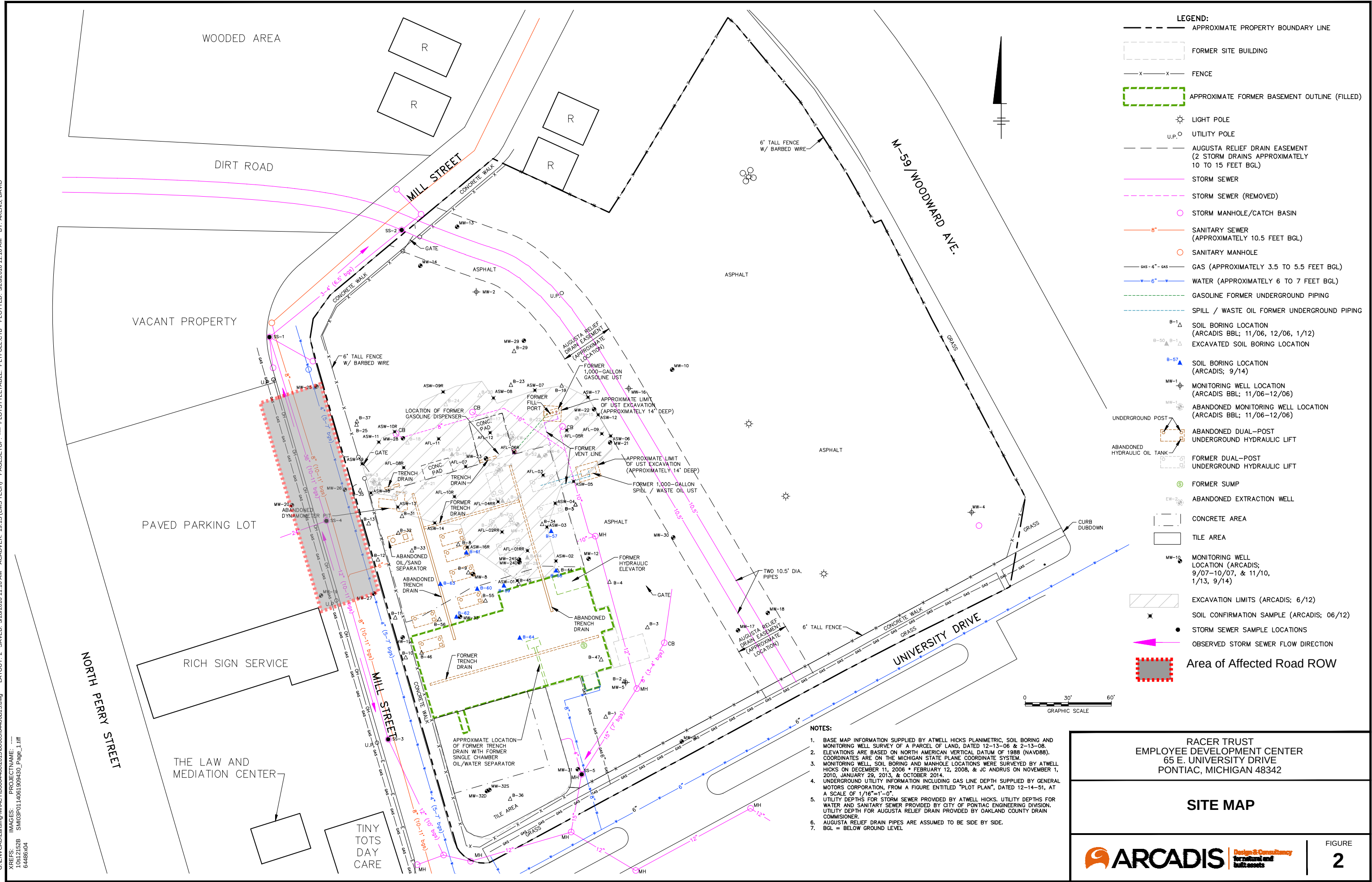
Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.

CITY: BRIGHTON DIV: GROUP 85 DE: ADF LD: (Opt) PM: (Reqd) TM: (Opt) LVR: (Opt) ONE="OFF" REF=" G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg LAYOUT: 2 SAVED: 3/29/2016 11:16 AM ACADVER: 19.1S (LWS TECH) PAGES: 2 PLOT: 1 PLOTSTYLETABLE: PLT\Full.ctb PLOTTED: 3/28/2016 11:16 AM BY: AKENS, DAVID

XREFS: IMAGES: PROJECTNAME: " G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg Page_1.tif 64486x04



RACER TRUST
EMPLOYEE DEVELOPMENT CENTER
65 E. UNIVERSITY DRIVE
PONTIAC, MICHIGAN 48342

SITE MAP





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266674045**.

Delivery Information:

Status:	Delivered	Delivered to:	Shipping/Receiving
Signed for by:	P.TRAPKA	Delivery location:	1 ENERGY PLAZA JACKSON, MI 49201
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:10
Special Handling:	Deliver Weekday		

Shipping Information:

Tracking number:	776266674045	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Consumers Energy
1 Energy Plaza
Land Development Seventh Floor
JACKSON, MI 49201 US

Reference
Purchase order number:
Invoice number

Shipper:
Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

Thank you for choosing FedEx.

Water Resource Commission
James Wineka
1 Public Works Drive, Building 95 West
Waterford, MI 48328

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241
www.arcadis.com

Subject:
Notice to Impacted Party
Pontiac Employee Development Center
Facility ID: 63006001/ 0-0015260
65 East University Drive
Pontiac, Michigan 48342

ENVIRONMENT

Date:
May 4, 2016

Dear Mr. Wineka:

Contact:
Allyn Begnoche

Arcadis of Michigan, LLC (Arcadis), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, would like to provide you with an update on the progress of corrective actions at the Pontiac Employee Development Center (EDC), located at 65 East University Drive, Pontiac, Michigan (Site). Groundwater and soil data that has been collected from monitoring points associated with the Site has necessitated the need for the following notice.

Phone:
810.225.1971

Email:
Allyn.begnoche@arcadis.com

In accordance with *Section 21309a(3) of Part 213, Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451)* Arcadis submits this Notice to Impacted Parties of Corrective Action (please see attachment) for the right-of-way (ROW) of North Mill Street located to the west of 65 East University Drive. This notice is a result of ongoing corrective action activities (such as, but not limited to, groundwater monitoring, soil probing, well installation, etc.) that have occurred at the Site, and is required by the Michigan Department of Environmental Quality – Remediation and Redevelopment Division (MDEQ-RRD).

Our ref:
B0064486.2016

Groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in one off-site monitoring point associated with the Site located in the ROW of North Mill Street. Soil and groundwater concentrations above MDEQ Part 201 Generic Cleanup Criteria for the drinking water and groundwater to surface water pathways have been observed in on-site monitoring points

James Wineka
May 4, 2016

associated with the Site located immediately adjacent to the ROW of North Mill Street. Arcadis is continuing with corrective action activities until environmental closure at Pontiac Employee Development Center have been achieved.

If you have any questions regarding this matter, please contact Allyn Begnoche at 810.225.1971 or allyn.begnoche@arcadis.com.

Sincerely,

Arcadis of Michigan, LLC



Allyn Begnoche

Associate Project Manager

Copies:

Mr. David Favero, RACER Trust

City of Pontiac DPW

Attachments

Notice to Impacted Parties of Corrective Action Form EQP4003

Site Map



NOTICE TO IMPACTED PARTIES OF CORRECTIVE ACTION

This information is being sent to notify you that your property is impacted by petroleum products or other regulated substances that were released from an Underground Storage Tank (UST) and to notify you of the steps that are being taken to address the contamination. This information is required to be sent to you under Sections 21309a(3) of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

OWNER OR OPERATOR PROPOSING CORRECTIVE ACTION: RACER Trust

LOCATION OF RELEASE (SITE NAME): Pontiac Employee Development Center

STREET ADDRESS: 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

CONTACT PERSON: David Favero

PHONE: 734.879.9525

MAILING ADDRESS: 500 Woodward Avenue, Suite 2650

CITY: Detroit

STATE: MI

ZIP: 48226

PROPERTY DIRECTLY IMPACTED BY THE RELEASE:

PROPERTY OWNERS NAME: Water Resource Commission Attention James Wineka

PROPERTY ADDRESS: North Mill Street Right of Way adjacent to 65 East University Drive

CITY: Pontiac

ZIP: 48342

COUNTY: Oakland

MAILING ADDRESS: 1 Public Works Drive, Building 95 West

CITY: Waterford

STATE: MI

ZIP: 48328

☒ The groundwater at this property is contaminated with petroleum products or other regulated substances.

☒ The soil at this property is contaminated with petroleum products or other regulated substances.

Type of corrective action(s) or restriction(s) proposed for this release:

Restrictive Covenant, Non-MDOT Right-of-Way Alternative Institutional Control.

Corrective Action Goal/Objective for your property:

☐ **Unrestricted Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any residential purpose, with no restrictions.)

☐ **Unrestricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that allow for the use of the property for any non-residential purpose, with no restrictions.)

☐ **Restricted Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

☒ **Restricted Non-Residential** (Petroleum products or other regulated substances would remain at levels that require some restricted use of the property. The property can be used for non-residential purposes with the appropriate restrictions applied to the deed with the property owner's approval.)

This notice does not constitute a warranty or representation of any kind by the State of Michigan that the corrective actions performed in accordance with this notice will result in the achievement of the remedial criteria established by Law, or that the property is suitable for any particular use.

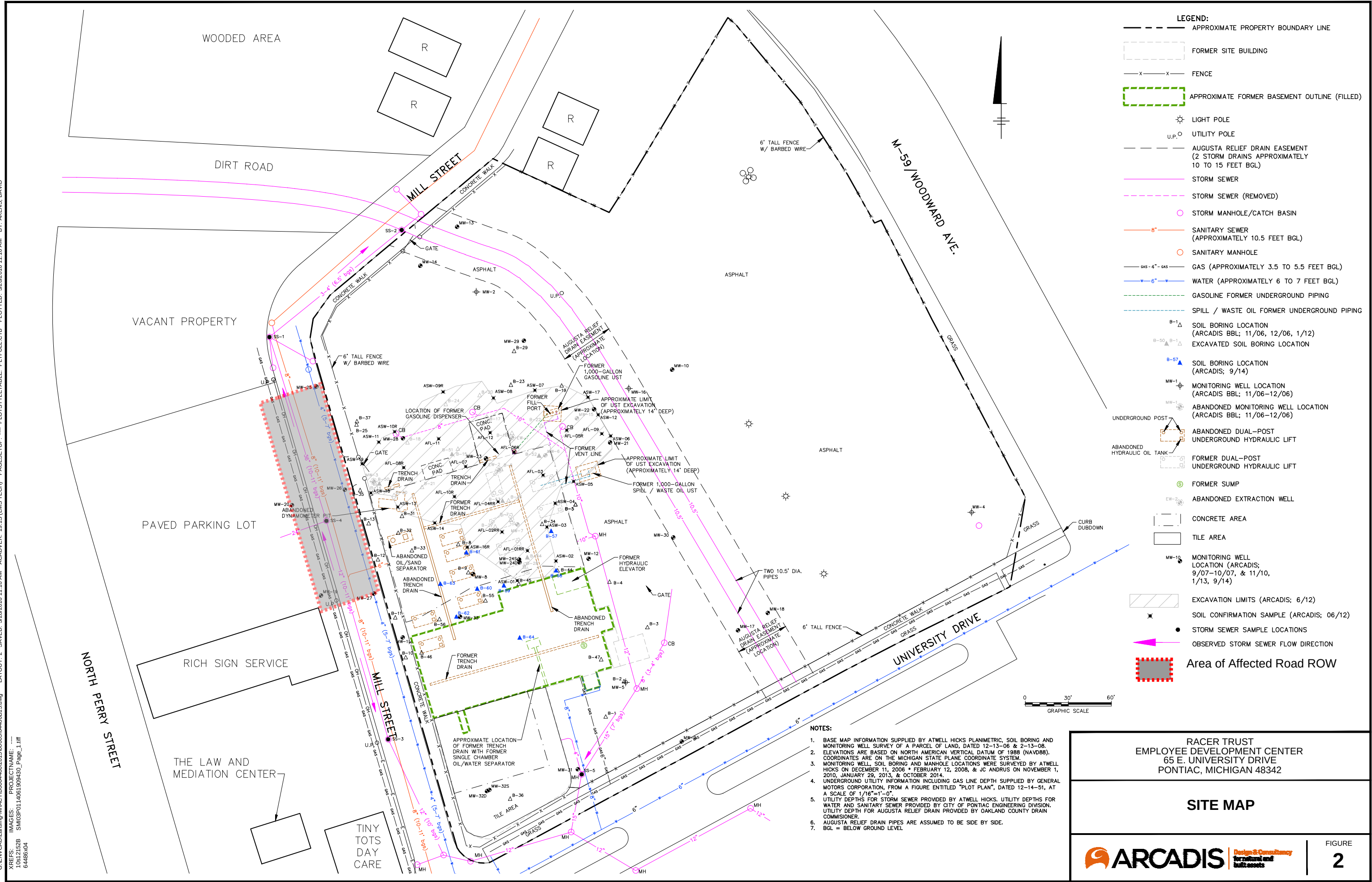
Site release information and corrective action plans are made available to the public at the local Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) District Office listed below:

Lansing District Headquarters: 525 W. Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

To obtain a copy of this information, please go to www.michigan.gov/deq, Freedom of Information Act (FOIA) Link for further details, or contact the DEQ FOIA Office by phone at: 800-662-9278.

CITY: BRIGHTON DIV: GROUP 85 DE: ADF LD: (Opt) PM: (Reqd) TM: (Opt) LVR: (Opt) ONE: "OFF" REF: G:\ENVCAD\Planning-MIACT\B064486\2015\000303\64486B15.dwg LAYOUT: 2 SAVED: 3/29/2016 11:16 AM ACADVER: 19.1S (LWS TECH) PAGES: 2 PLOT: 1 PLOTSTYLE: TABLE: PLT: FULL.CTB PLOTTED: 3/28/2016 11:16 AM BY: AKENS, DAVID

PROJECT NAME: RACER TRUST EMPLOYEE DEVELOPMENT CENTER
XREFS: 10612152B SMD03P0114061909430_Page_1.tif 64486x04





May 5, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776266757825**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	D.BUTKAS	Delivery location:	1 PUBLIC WORKS DR WATERFORD, MI 48328
Service type:	FedEx Priority Overnight	Delivery date:	May 5, 2016 10:12
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	776266757825	Ship date:	May 4, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
James Wineka
Water REsource Commission
1 Public Works Drive
Building 95 West
WATERFORD, MI 48328 US

Reference

Purchase order number:

Invoice number

Shipper:
Cindy Jeffers
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377 US
B0064486.2016.00001
Pontiac EDC
NIP

Thank you for choosing FedEx.

Appendix G

Site-Specific Volatilization to Indoor Air Criteria Documentation

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

INTEROFFICE COMMUNICATION

TO: Greg Barrows, Senior Geologist, RRD

FROM: Shane Morrison, Senior Toxicologist, RRD

DATE: April 6, 2021

SUBJECT: RACER Former Employee Development Center – Off-Site City of Pontiac North Mill Street Area Site-Specific Criteria Evaluation

The following site-specific volatilization to indoor air criteria (SSVIAC) are the Michigan Department of Environment, Great Lakes, and Energy's (EGLE's) determination of values that reflect best available information regarding the toxicity and exposure risks posed by the hazardous substances present at the facility. These values are based upon the information provided with the request to develop SSVIAC for this facility. These values may be used provided it is documented that the conditions used to develop the site-specific criteria are met at the facility. Other values may be developed by a person consistent with the statutory provisions for development of site-specific criteria and provided for EGLE review and approval.

Correspondence transmitting these values to the submitter/consultant as part of a report, review, or other request must incorporate the appropriate sections of the volatilization to indoor air pathway (VIAP) model document language. As indicated in this document, when groundwater volatilization to indoor air inhalation criteria (GVIIC) and soil volatilization to indoor air inhalation criteria (SVIIC) are not applicable, the correspondence must include language indicating the requirement to evaluate all potentially affected three media i.e., groundwater, soil, and soil gas. In addition, all of the following SSVIAC tables must be copied into the correspondence or letter as part of your response to the submitter/consultant. If representative groundwater and soil sampling indicate that site concentrations are below unrestricted residential SSVIAC, there is not a vapor source and there is not a requirement to evaluate the migration of vapors with soil gas sampling. Exceedance of unrestricted residential SSVIAC for any media necessitates a representative soil gas investigation to evaluate the VIAP.

Unrestricted residential site-specific criteria were included in the evaluation based on information provided and EGLE's residential conceptual site model. Exceedance of the unrestricted residential SSVIAC will require restrictions or institutional controls for closure or aid in the determination of off-site migration.

Nonresidential SSVIAC may be adjusted for some hazardous substances to reflect a reasonable maximum worker exposure of 12-hour per day; however, if a person does not exceed the provided nonresidential site-specific criteria, no adjustment is necessary.

The site-specific criteria were generated using the United States Department of Agriculture (USDA) soil type of sand. Other site-specific criteria can be generated using a different soil type by providing soil characterization results from department approved methods on soils collected at the site.

Additional hazardous substances were included in the site-specific evaluation that were not explicitly requested. These hazardous substances may be components of recent petroleum releases and the primary breakdown products of tetrachloroethylene. The preemptive site-specific evaluation of these substances was provided to limit the potential need for future resubmittal for this facility.

Please contact me at MorrisonS5@michigan.gov or 517-284-5063 if you require any clarification of these comments and criterion or have additional questions.

cc: Eric Wildfang, Toxicology Unit Supervisor, RRD
Paul Owens, District Supervisor, RRD
Cheryl Wilson, Assistant District Supervisor, RRD

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a nonresidential structure that has areas **< 50,000 ft² of continuously open space**, a **slab-on-grade** foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	3.6E+06 nc	11,000 nc
208968	Acenaphthylene	710 nc	DATA	11,000 nc
994058	t-Amyl methyl ether (TAME)	210 nc	600 nc	3,200 nc
120127	Anthracene	43 (S) sol	2.2E+08 nc	51,000 nc
71432	Benzene	8.4 ca	47 (M) ca	260 ca
56553	Benzo(a)anthracene	9.4 (S) sol	1.1E+07 ca	33 ca
75650	t-Butyl alcohol	26,000 nc	57,000 nc	3,700 nc
104518	n-Butylbenzene	360 nc	9,800 nc	10,000 nc
135988	sec-Butylbenzene	400 nc	66,000 (C) nc (49,000)	20 nc
98066	t-Butylbenzene	0.71 (M) nc	11 (M) nc	20 nc
110827	Cyclohexane	8,100 nc	5,600 nc	3.1E+05 nc
75343	1,1-Dichloroethane	40 ca	74 ca	1,200 ca
107062	1,2-Dichloroethane	5.1 ca	23 (M) ca	77 ca
75354	1,1-Dichloroethylene	250 nc	220 nc	10,000 nc
156592	cis-1,2-Dichloroethylene	14 nc	37 (M) nc	410 nc
156605	trans-1,2-Dichloroethylene	110 nc	210 nc	4,100 nc
78875	1,2-Dichloropropane	8.9 nc	37 (M) nc	200 nc
60297	Diethyl ether	3,100 nc	6,200 nc	51,000 nc
108203	Diisopropyl ether	710 (DD) dev	2,300 (DD) dev	23,000 (DD) dev
64175	Ethanol	3.1E+05 (FF) st	1.6E+07 (EE) st	6.3E+05 (EE) st
637923	Ethyl-tert-butyl ether (ETBE)	580 nc	DATA	19,000 nc
100414	Ethylbenzene	28 ca	340 ca	800 ca
106934	Ethylene dibromide	0.39 ca	2.1 (M) ca	3.3 ca
86737	Fluorene	1,700 (S) sol	8.3E+06 nc	7,200 nc
142825	n-Heptane	3,400 (S) sol	2,300 nc	1.8E+05 nc

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a nonresidential structure that has areas **< 50,000 ft² of continuously open space**, a **slab-on-grade** foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m ³)
110543	n-Hexane	1,000 nc	440 nc	36,000 nc
67630	Isopropyl alcohol	81,000 nc	1.7E+05 nc	10,000 nc
98828	Isopropyl benzene	6.7 ca	110 (M) ca	190 ca
1634044	Methyl-tert-butyl ether (MTBE)	810 ca	2,100 ca	7,700 ca
96377	Methylcyclopentane	950 nc	510 (M) nc	36,000 nc
91576	2-Methylnaphthalene	110 nc	30,000 nc	510 nc
91203	Naphthalene	12 ca	1,900 ca	59 ca
109660	Pentane	1,400 nc	630 (M) nc	51,000 nc
85018	Phenanthrene	15 nc	29,000 nc	5.1 nc
1336363	Polychlorinated biphenyls (PCBs)	0.97 (J) ca	DATA	20 (J) ca
103651	n-Propylbenzene	970 (DD) dev	21,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	4.4E+08 nc	5,100 nc
100425	Styrene	170 ca	4,300 ca	3,500 ca
127184	Tetrachloroethylene	35 (FF) st	74 (EE) st	1,400 (EE) st
108883	Toluene	6,600 (FF) st	64,000 (EE) st	2.5E+05 (EE) st
79016	Trichloroethylene	1.6 (DD) dev	4.0 (M) (DD) dev	67 (DD) dev
540841	2,2,4-Trimethyl pentane	2,400 (S) sol	2,200 (M) nc	1.8E+05 nc
526738	1,2,3-Trimethylbenzene	150 (JT) nc	4,800 (JT) nc	3,100 (JT) nc
95636	1,2,4-Trimethylbenzene	120 (JT) nc	2,600 (JT) nc	3,100 (JT) nc
108678	1,3,5-Trimethylbenzene	110 (JT) nc	1,800 (JT) nc	3,100 (JT) nc
75014	Vinyl chloride	10 ca	8.2 (M) ca	450 ca
1330207	Xylenes	410 (J) nc	5,000 (J) nc	11,000 (J) nc

Table 2. Residential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a residential house with a **slab-on-grade** foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
83329	Acenaphthene	3,900 (S) sol	2.1E+05 nc	7,300 nc
208968	Acenaphthylene	65 nc	DATA	7,300 nc
994058	t-Amyl methyl ether (TAME)	82 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
71432	Benzene	1.0 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
75650	t-Butyl alcohol	17,000 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	44 nc	560 nc	7,000 nc
135988	sec-Butylbenzene	270 nc	3,800 nc	14 nc
98066	t-Butylbenzene	7.7E-02 (M) nc	0.64 (M) nc	14 nc
110827	Cyclohexane	290 nc	320 (M) nc	2.1E+05 nc
75343	1,1-Dichloroethane	4.7 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	1.4 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	18 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	3.4 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	16 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	2.6 nc	2.1 (M) nc	140 nc
60297	Diethyl ether	1,200 nc	350 nc	35,000 nc
108203	Diisopropyl ether	36 (DD) dev	200 (M) (DD) dev	23,000 (DD) dev
64175	Ethanol	1.0E+05 (FF) st	1.3E+06 (EE) st	6.3E+05 (EE) st
637923	Ethyl-tert-butyl ether (ETBE)	22 nc	DATA	13,000 nc
100414	Ethylbenzene	2.8 ca	12 (M) ca	340 ca
106934	Ethylene dibromide	0.13 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
142825	n-Heptane	150 nc	130 nc	1.2E+05 nc

Table 2. Residential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a residential house with a **slab-on-grade** foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
110543	n-Hexane	29 nc	25 nc	24,000 nc
67630	Isopropyl alcohol	53,000 nc	9,900 nc	7,000 nc
98828	Isopropyl benzene	0.60 (M) ca	3.8 (M) ca	81 ca
1634044	Methyl-tert-butyl ether (MTBE)	250 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	30 (M) nc	29 (M) nc	24,000 nc
91576	2-Methylnaphthalene	66 nc	1,700 nc	350 nc
91203	Naphthalene	4.2 (M) ca	67 (M) ca	25 ca
109660	Pentane	40 (M) nc	36 (M) nc	35,000 nc
85018	Phenanthrene	9.5 nc	1,700 nc	3.5 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (J) ca	DATA	8.5 (J) ca
103651	n-Propylbenzene	43 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
100425	Styrene	33 ca	150 ca	1,500 ca
127184	Tetrachloroethylene	1.5 (FF) st	6.2 (M) (EE) st	1,400 (EE) st
108883	Toluene	300 (FF) st	3,700 nc	1.7E+05 nc
79016	Trichloroethylene	7.3E-02 (M) (DD) dev	0.33 (M) (DD) dev	67 (DD) dev
540841	2,2,4-Trimethyl pentane	160 nc	130 (M) nc	1.2E+05 nc
526738	1,2,3-Trimethylbenzene	43 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	25 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	18 (JT) nc	100 (JT) nc	2,100 (JT) nc
75014	Vinyl chloride	0.12 (MM) (M) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	75 (J) nc	280 (J) nc	7,600 (J) nc

Table 3. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
83329	Acenaphthene	3,900 (S) sol	2.0E+05 nc	7,300 nc
208968	Acenaphthylene	65 nc	DATA	7,300 nc
994058	t-Amyl methyl ether (TAME)	82 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
71432	Benzene	1.0 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
75650	t-Butyl alcohol	17,000 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	44 nc	550 nc	7,000 nc
135988	sec-Butylbenzene	270 nc	3,800 nc	14 nc
98066	t-Butylbenzene	7.7E-02 (M) nc	0.64 (M) nc	14 nc
110827	Cyclohexane	290 nc	320 (M) nc	2.1E+05 nc
75343	1,1-Dichloroethane	4.7 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	1.4 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	18 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	3.4 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	16 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	2.6 nc	2.1 (M) nc	140 nc
60297	Diethyl ether	1,200 nc	350 nc	35,000 nc
108203	Diisopropyl ether	36 (DD) dev	190 (M) (DD) dev	23,000 (DD) dev
64175	Ethanol	1.0E+05 (FF) st	1.3E+06 (EE) st	6.3E+05 (EE) st
637923	Ethyl-tert-butyl ether (ETBE)	22 nc	DATA	13,000 nc
100414	Ethylbenzene	2.8 ca	12 (M) ca	340 ca
106934	Ethylene dibromide	0.13 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
142825	n-Heptane	150 nc	130 nc	1.2E+05 nc

Table 3. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement foundation, the depth to groundwater submitted for this site (i.e. 2.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
110543	n-Hexane	29 nc	25 nc	24,000 nc
67630	Isopropyl alcohol	53,000 nc	9,800 nc	7,000 nc
98828	Isopropyl benzene	0.60 (M) ca	3.8 (M) ca	81 ca
1634044	Methyl-tert-butyl ether (MTBE)	250 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	30 (M) nc	29 (M) nc	24,000 nc
91576	2-Methylnaphthalene	66 nc	1,700 nc	350 nc
91203	Naphthalene	4.2 (M) ca	67 (M) ca	25 ca
109660	Pentane	40 (M) nc	36 (M) nc	35,000 nc
85018	Phenanthrene	9.5 nc	1,700 nc	3.5 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (J) ca	DATA	8.5 (J) ca
103651	n-Propylbenzene	43 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
100425	Styrene	33 ca	150 ca	1,500 ca
127184	Tetrachloroethylene	1.5 (FF) st	6.2 (M) (EE) st	1,400 (EE) st
108883	Toluene	300 (FF) st	3,700 nc	1.7E+05 nc
79016	Trichloroethylene	7.3E-02 (M) (DD) dev	0.33 (M) (DD) dev	67 (DD) dev
540841	2,2,4-Trimethyl pentane	160 nc	130 (M) nc	1.2E+05 nc
526738	1,2,3-Trimethylbenzene	43 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	25 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	18 (JT) nc	100 (JT) nc	2,100 (JT) nc
75014	Vinyl chloride	0.12 (MM) (M) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	75 (J) nc	280 (J) nc	7,600 (J) nc

FOOTNOTES

**Soil vapor site-specific volatilization to indoor air criteria (SSVIAC) are applicable for all depths.

- Acceptable Air Values (AAV) endpoint basis used for SSVIAC: (**ca**) = Carcinogenic; (**nc**) = Non-Carcinogenic; (**dev**) = Developmental; (**mut**) = Mutagenic cancer; (**st**) = Short-term (i.e., less than chronic exposure).
- Footnote **(#)**: Acceptable air concentrations (AAC) cannot be adjusted to a 12-hour exposure time for hazardous substance.
- Footnote **AA**: Health-based groundwater SSVIAC are not available due to insufficient toxicological data. Dissolved-phase methane in groundwater is not explosive; however, if liberated and allowed to accumulate in an enclosed structure the principle health and safety concerns are explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable groundwater concentration is the flammability and explosivity screening level (**FESL**) of 10,000 µg/L.
- Footnote **C**: The health-based SSVIAC exceeds the chemical-specific soil saturation screening level (**Csat**). Because this table does not list Csat values both were provided, with the calculated (health-based) value listed first and Csat provided in parenthesis. The person proposing or implementing response activity must document whether additional response activity is required to control non aqueous phase liquid (**NAPL**) to protect against risks associated with NAPL by using methods appropriate for the NAPL present.
- Footnote **CC**: Insufficient chemical-physical input parameters have been identified to allow the development of a health-based SSVIAC using standard methods. The health based SSVIAC for groundwater is developed based solely on the approach that the department uses for shallow groundwater. If groundwater detections are present, soil vapor may be the most appropriate media to evaluate risk posed from the VIAP.
- Footnote **DATA**: Insufficient physical chemical parameters to calculate a health based SSVIAC for specified media. If detections are present in specified media, health-based soil vapor SSVIAC should be used to evaluate risk.
- Footnote **DD**: Hazardous substance causes developmental effects. Residential SSVIAC are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential SSVIAC are protective of prenatal exposure using a pregnant female receptor. Prenatal developmental effects may occur after an acute (i.e. short-term) or full-term exposure.
- Footnote **EE**: The acceptable air concentration (**AAC**) for the volatile hazardous substances is not derived using standard methods. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for these hazardous substances is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a United States Environmental Protection Agency Integrated Risk Information System (IRIS) acute reference concentration, or EGLE's Air Quality Division acute initial threshold screening level (ITSL).
- Footnote **FF**: The AAC for the volatile hazardous substances are based on toxicity values that have been identified to have the potential to cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The short-term exposure for shallow groundwater health based SSVIAC are based on modification of the standard methods by the department to develop applicable shallow groundwater values.
- Footnote **GG**: Health-based SSVIAC for soil vapor are not available due to insufficient toxicological data. The soil vapor value addresses the health and safety concerns of explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable soil vapor concentration is derived based on 25% of the lower explosive level (**LEL**) for methane.
- Footnote **GW**: The calculated health based SSVIAC for a hazardous substance based upon shallow groundwater is considered protective when it is greater than the calculated value for groundwater.
- Footnote **ID**: Requires further evaluation to determine the appropriate media to sample.
- Footnote **J**: Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to criteria.
- Footnote **JT**: Hazardous substance may be present in several isomer forms. The health-based SSVIAC may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive health-based SSVIAC of the detected isomers.
- Footnote **M**: The health based SSVIAC may be below target detection limits (**TDL**). In accordance with Sec. 20120a(10) when the TDL for a hazardous substance is greater than the developed health-based SSVIAC, the TDL is used to evaluate the risk posed from the pathway.
- Footnote **MM**: Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating health-based SSVIAC are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic.
- Footnote **NA**: The hazardous substance does not meet the department's definition of a volatile; therefore, no health based SSVIAC were developed.
- Footnote **NR**: The hazardous substance has not been previously evaluated by the Remediation and Redevelopment Division Toxicology Unit. The identification, collection, and evaluation of toxicological literature and chemical-physical data cannot be completed within the timeframe requested.
- Footnote **S**: Calculated health-based SSVIAC exceeds the hazardous substance-specific water solubility limit; therefore, the water solubility limit is used to evaluate the risk posed from the pathway. When this occurs the basis for the screening level is noted as "sol".
- Footnote **TX**: The Remediation and Redevelopment Division Toxicology Unit has not identified an inhalation toxicity value for the hazardous substance.

Saunders, Brad

From: Saunders, Brad
Sent: Thursday, March 4, 2021 7:37 AM
To: Barrows, Gregory (EGLE)
Subject: RE: RACER Trust SSVIAC Request

Greg,

To reflect current conditions including those in the foreseeable future as there are no plans or even space for buildings of that size on the subject parcels of interest, I've changed the request to just reference the < 50,000 ft² as applicable, and removed the reference to structures > 50,000 ft² as none exist. This also keeps the second highlighted area N/A. I apologize for the confusion on this.

Thanks, Brad

NONRESIDENTIAL:

Land Use – Consistent with nonresidential criteria assumptions^{2,3}:

☒ Nonresidential structure < 50,000 ft²

☐ Nonresidential structure > 50,000 ft²

☐ Former residential structure now nonresidential use

Building Foundation:

☒ Slab-on-grade

☐ Basement

☐ Crawlspace w/ slab

☐ Crawlspace w/ dirt floor

If multiple foundation types are selected, are these foundations present for:

N/A ☒ single structure ☐ multiple single-foundation structures ☐

If > 50,000 ft² continuously open space, does the structure also have portions of < 50,000 ft² continuously open space (e.g. offices, breakrooms, etc.)?

N/A ☒ YES ☐ NO ☐

2.5 Feet Depth below grade to first encountered groundwater (or depth of investigation if not encountered). A specific depth that is NOT an average must be provided.

N/A If a crawlspace is present, the depth of construction below grade is required.

From: Barrows, Gregory (EGLE) <BARROWSG@michigan.gov>

Sent: Thursday, March 4, 2021 7:32 AM

To: Saunders, Brad <Brad.Saunders@arcadis.com>

Subject: FW: RACER Trust SSVIAC Request

From: Morrison, Shane (EGLE) <MorrisonS5@michigan.gov>

Sent: Thursday, March 04, 2021 7:15 AM

To: Barrows, Gregory (EGLE) <BARROWSG@michigan.gov>

Subject: RE: RACER Trust SSVIAC Request

The email communication works but the responses below do not match map.

I am not sure If you are looking at multiple nonresidential structures but with the >50,000ft² continuous open space selected the second query should be answered either "yes" or "no".

Let me know,
Shane

From: Barrows, Gregory (EGLE) <BARROWSG@michigan.gov>

Sent: Wednesday, March 3, 2021 5:59 PM

To: Morrison, Shane (EGLE) <MorrisonS5@michigan.gov>

Subject: RE: RACER Trust SSVIAC Request

NONRESIDENTIAL:

Land Use – Consistent with nonresidential criteria assumptions^{2,3}:

☒ Nonresidential structure < 50,000 ft²

☒ Nonresidential structure > 50,000 ft²

☐ Former residential structure now nonresidential use

Building Foundation:

☒ Slab-on-grade

☐ Basement

☐ Crawlspace w/ slab

☐ Crawlspace w/ dirt floor

If multiple foundation types are selected, are these foundations present for:

N/A ☒ single structure ☐ multiple single-foundation structures ☐

If > 50,000 ft² continuously open space, does the structure also have portions of < 50,000 ft² continuously open space (e.g. offices, breakrooms, etc.)?

N/A ☒ YES ☐ NO ☐

2.5 Feet Depth below grade to first encountered groundwater (or depth of investigation if not encountered). A specific depth that is NOT an average must be provided.

N/A If a crawlspace is present, the depth of construction below grade is required.

Hi Shane,

Does this work or do you need version 3 for this one?

Thanks

Greg

From: Morrison, Shane (EGLE) <MorrisonS5@michigan.gov>

Sent: Wednesday, March 03, 2021 1:27 PM

To: Barrows, Gregory (EGLE) <BARROWSG@michigan.gov>

Subject: RE: RACER Trust SSVIAC Request

Hi Greg,

This request was submitted on an older version of the questionnaire. The attached version 3 should be used because it limits the for follow-up emails like this one. Please clarify the points highlighted below:

NONRESIDENTIAL:

Land Use – Consistent with nonresidential criteria assumptions^{2,3}:

- ☐ Nonresidential structure < 50,000 ft²
- ☐ Nonresidential structure > 50,000 ft²
- ☐ Former residential structure now nonresidential use

Building Foundation:

- ☐ Slab-on-grade
- ☐ Basement
- ☐ Crawlspace w/ slab
- ☐ Crawlspace w/ dirt floor

If multiple foundation types are selected, are these foundations present for:

N/A ☐ single structure ☐ multiple single-foundation structures ☐

If > 50,000 ft² continuously open space, does the structure also have portions of < 50,000 ft² continuously open space (e.g. offices, breakrooms, etc.)?

N/A ☐ YES ☐ NO ☐

____ Depth below grade to first encountered groundwater (or depth of investigation if not encountered). A specific depth that is NOT an average must be provided.

____ If a crawlspace is present, the depth of construction below grade is required.

Thanks,
Shane

From: Barrows, Gregory (EGLE) <BARROWSG@michigan.gov>
Sent: Wednesday, March 3, 2021 11:45 AM
To: Morrison, Shane (EGLE) <MorrisonS5@michigan.gov>
Subject: RACER Trust SSVIAC Request

Shane,

Attached is a request for site-specific Volatilization to Indoor Air Inhalation Criteria for the RACER Trust Pontiac EDC. Please let me know if you need anything additional.

Thanks

Greg

Gregory Barrows
Senior Geologist
Department of Environment, Great Lakes, and Energy
Southeast Michigan District Office
27700 Donald Court
Warren, Michigan 48092-2793
Phone: (586) 753-3807
Fax: (586) 753-3801
E-Mail: barrowsg@michigan.gov



LET'S STAY SAFE TOGETHER

FACILITY/SITE NAME AND OTHER IDENTIFIERS:

Name: RACER Former Employee Development Center – Off-Site City of Pontiac North Mill Street Area (Site)

Address: North Mill Street north of University Drive, Pontiac, Michigan. The Site consists of a defined area with the City of Pontiac North Mill Street Right-Of-Way (ROW) west and adjacent to former RACER Parcel 14-29-428-002 (See Figure 1).

Facility/Site ID: 63006001/0-0015260

EGLE PROJECT MANAGER AND CONTACT INFORMATION:

Name: Greg Barrows

District: Southeast Michigan District Office

Phone: 586-753-3807

Email: barrowsg@michigan.gov

SIGMA Location Code:

Sub-location (if available):

REVIEW TIMEFRAME: 15 - 30 Days

Justification for expedited turn arounds:

****As part of the site-specific evaluation, the Toxicology Unit may request the supporting information****

Is this a new request or resubmission (highlight areas that are revised/new)?

NEW ☒

RESUBMISSION ☐

Information submitted to EGLE identifies that the depth to groundwater represents the shallowest depth encountered at the site (or depth of investigation if no groundwater was encountered)?

YES ☒

¹NO ☐

Site-specific criteria will be calculated using the USDA soil type of sand unless information submitted to EGLE supports using the identified USDA soil classification and includes sufficient soil borings to properly characterize the various soil types and various soil horizon thicknesses for the site.

SAND ☒

OTHER (see below and attached documentation) ☐

Information submitted to EGLE supports that the identified general building conditions and land use are consistent with current or proposed site conditions?

YES ☒

²NO ☐

Comments or clarifications:

Note that based on the limited area of residual groundwater impacts and area of influence, only three buildings are identified as being applicable for the consideration of establishing site-specific VI criteria. While all three properties are zoned for commercial business, one of them is occupied by a Day Care facility. Therefore, both non-residential and residential criteria have been requested for select VOCs.

Please note that we are additionally requesting Tier 2 & 3 vapor intrusion screening levels for this project site.

Please provide groundwater and soil gas screening levels for the listed VOCs.

¹Site-specific VIAC will be developed based on shallow groundwater.

²Site-specific VIAC will be developed based on unrestricted residential input parameters and the information provided.

QUESTIONNAIRE FOR SITE-SPECIFIC VIAC

VOLATILE HAZARDOUS SUBSTANCES WITH CAS NUMBERS PRESENT AT THE FACILITY/SITE:

Please provide the full list of VOCs.

Hazardous substance	CAS #
1,2-Dichloroethane	107-06-2
1,2-Dichloropropane	78-87-5
Benzene	71-43-2
Trichloroethene	79-01-6
Vinyl Chloride	9002-86-2

Hazardous substance	CAS #

If multiple buildings are present that have different construction, different land use designations, or different environmental conditions information should be provided for each. Where information is not available the most conservative inputs will be used.

RESIDENTIAL:

Land Use

- | | |
|---|---|
| ☐ House | ☐ High-Rise Apartment (6 floors or more) |
| ☐ Slab-on-grade | ☐ Slab-on-grade |
| ☐ Basement | ☐ Basement |
| ☐ Crawlspace w/ slab | ☐ Crawlspace w/ slab |
| ☐ Crawlspace w/ dirt floor | ☐ Crawlspace w/ dirt floor |
|
 | |
| ☒ Day Care Facility | |
| ☒ Slab-on-grade | |
| ☐ Basement | |
| ☐ Crawlspace w/ slab | |
| ☐ Crawlspace w/ dirt floor | |

QUESTIONNAIRE FOR SITE-SPECIFIC VIAC

2.5 Feet Depth below grade to first encountered groundwater (or depth of investigation if not encountered). A specific depth that is NOT an average must be provided.

____ If a crawlspace is present, the depth of construction below grade is required.

NONRESIDENTIAL:

Land Use – Consistent with nonresidential criteria assumptions^{2,3}:

- ☒ Nonresidential structure < 50,000 ft²
- ☒ Nonresidential structure > 50,000 ft²
- ☐ Former residential structure now nonresidential use

Building Foundation:

- ☒ Slab-on-grade
- ☐ Basement
- ☐ Crawlspace w/ slab
- ☐ Crawlspace w/ dirt floor

2.5 Feet Depth below grade to first encountered groundwater (or depth of investigation if not encountered). A specific depth that is NOT an average must be provided.

____ If a crawlspace is present, the depth of construction below grade is required.

² NONRESIDENTIAL LAND USE not consistent with nonresidential criteria exposure assumptions will require more data, more coordination, and longer timeframe to develop site-specific VIAC. Nonresidential site-specific VIAC are developed for healthy adult workers with potential exposure during a workday and potential intermittent exposure of adults and children who are customers, patrons, or visitors to commercial or industrial establishments during a portion of the workday. Nonresidential criteria are not appropriate for establishments where children and other sensitive populations may be frequently present (e.g., schools, day-care, hospitals, campgrounds, recreational areas, etc.,).

³ Nonresidential building size of </> 50,000 ft² is based on continuous open space and refers to the structure or a portion of the structure.

SOIL TYPE(S) PER USDA CLASSIFICATION: If the site-specific soil type is unknown or were not classified using USDA soil classification methodologies, the soil type will be based on USDA sand. If more than a single soil type is identified, the SSVIAC will be based on the USDA soil type that results in the most restrictive criteria to assure no unacceptable risk.

USCS classifications are not interchangeable for USDA Classifications

- | | |
|---|--|
| ☒ Unknown | ☐ Sandy Clay Loam |
| ☐ Sand | ☐ Clay Loam |
| ☐ Loamy Sand | ☐ Silty Clay Loam |
| ☐ Sandy Loam | ☐ Sandy Clay |
| ☐ Loam | ☐ Silty Clay |
| ☐ Silty Loam | ☐ Clay |

Note: If heterogeneous soils are present with more data, more coordination, and a longer development time frame site-specific VIAC can reflect the various soil types present.

124 N PERRY ST PONTIAC MI 48342-2343

14-29-427-012

Commercial and Industrial Property Profile



Note: Please be advised the data included in Property Gateway originates from multiple local municipalities. Data, in regard to properties, may be classified and updated differently by municipalities. If you have any questions, please contact the local community where the data originated.

Owner Information

Owner(s) : RICH SIGN SERVICE
Mailing Address : 124 N PERRY ST PONTIAC MI 48342-2343

Location Information

Site Address : 124 N PERRY ST PONTIAC MI 48342-2343
PIN : 14-29-427-012 Neighborhood Code : CRL
Municipality : City of Pontiac
School District : 63030 PONTIAC CITY SCHOOL DISTRICT
Use : 201 BUS IMP (Commercial Business Imp.)
Water Indicator : Y Sewer Indicator : Y
Well Indicator : N Septic Indicator : N

Property Description

T3N, R10E, SEC 29 ORIGINAL PLAT N 10.50 FT OF LOT 22, ALSO S 20 FT OF LOT 23, ALSO LOTS 15 & 16 OF 'ASSESSOR'S PLAT NO 28' EXC THAT PART OF SD LOTS TAKEN FOR PERRY ST WIDENING

Split/Combination Information

Added Status : Added Parcel
Added Date : 01/26/1977 Added To : FROM 29-427-005 & 006

Tax Information

Taxable Value : \$70,550 State Equalized Value : \$73,610
Current Assessed Value : \$73,610 Capped Value : \$70,550
Effective Date For Taxes : 12/01/2020 Principal Residence Exemption : 0%
2019 Taxes 2020 Taxes
Summer : \$3,805.99 Summer : \$3,873.91
Winter : \$120.77 Winter : \$130.60
Village : Village :

Lot Information

Description : LEVEL Acres : 0.291

124 N PERRY ST PONTIAC MI 48342-2343

14-29-427-012

Commercial and Industrial Property Profile



Note: Please be advised the data included in Property Gateway originates from multiple local municipalities. Data, in regard to properties, may be classified and updated differently by municipalities. If you have any questions, please contact the local community where the data originated.

Building/Section 1

Building	: 1	Used As	: Stores - Retail
Year Built	: 1955	Effective Year	: 1975
Class	: C	Quality	: Average
No of Stories	: 1	Height Per Story (feet)	: 15
Avg Square Feet	: 3,054	Elevators	: N
Sprinklers	: N	Identical Units	: 1
Total Building Square Footage	: 3,054		

Building/Section 1 Lump Sum Adjustments

Description	: SHELTER (WOOD FLAT ROOF)		
Square Feet	: 2,135	Units	: 0

Building/Section 1 Yard Adjustments

Description	: Paving (Asphalt)		
Square Feet	: 6,624	Units	: 64
Description	: Paving (Concrete)		
Square Feet	: 2,448	Units	: 64

110 N PERRY ST PONTIAC MI 48342-2343

14-29-427-008

Commercial and Industrial Property Profile



Note: Please be advised the data included in Property Gateway originates from multiple local municipalities. Data, in regard to properties, may be classified and updated differently by municipalities. If you have any questions, please contact the local community where the data originated.

Owner Information

Owner(s) : EARLENE R BAGGETT-HAYES
Mailing Address : 1800 HICKORY BARK LN BLOOMFIELD HILLS MI 48304-1116

Location Information

Site Address : 110 N PERRY ST PONTIAC MI 48342-2343
PIN : 14-29-427-008 Neighborhood Code : COD
Municipality : City of Pontiac
School District : 63030 PONTIAC CITY SCHOOL DISTRICT
Use : 201 BUS IMP (Commercial Business Imp.)
Water Indicator : Y Sewer Indicator : Y
Well Indicator : N Septic Indicator : N

Property Description

T3N, R10E, SEC 29 ORIGINAL PLAT W 100 FT OF LOT 21, ALSO W 100 FT OF S 13.50 FT OF LOT 22 EXC THAT PART LYING WLY OF ELY LINE OF PERRY ST AS NOW LAID OUT & EST

Most Recent Sale Since 1994

Date : 07/29/2004
Amount : \$75,000 Liber : 33964:256
Grantor : PONTIAC Grantee : LUCAJ, VASEL
OSTEOPATHIC HOSP

Next Most Recent Sale

Date : 07/29/2004
Amount : \$90,000 Liber : 33904:611
Grantor : LUCAJ, VASEL
LUCAJ, LISA
LJUCOVIC, LJEZA Grantee : BAGGETTHAYES,
EARLENE R

Tax Information

Taxable Value : \$42,450 State Equalized Value : \$43,630
Current Assessed Value : \$43,630 Capped Value : \$42,450
Effective Date For Taxes : 12/01/2020 Principal Residence Exemption : 0%
2019 Taxes 2020 Taxes
Summer : \$2,289.95 Summer : \$2,330.89
Winter : \$72.65 Winter : \$78.57
Village : Village :

Lot Information

Description : LEVEL Acres : 0.169

110 N PERRY ST PONTIAC MI 48342-2343

14-29-427-008

Commercial and Industrial Property Profile



Note: Please be advised the data included in Property Gateway originates from multiple local municipalities. Data, in regard to properties, may be classified and updated differently by municipalities. If you have any questions, please contact the local community where the data originated.

Building/Section 1

Building	: 1	Used As	: Medical - Office Buildings
Year Built	: 1950	Effective Year	: 1975
Class	: C	Quality	: Average
No of Stories	: 1	Height Per Story (feet)	: 14
Avg Square Feet	: 1,327	Elevators	: N
Sprinklers	: N	Identical Units	: 1
Total Building Square Footage	: 1,327		

No lump sum improvements Data Available for Building/Section1

Building/Section 1 Yard Adjustments

Description	: Paving (Asphalt)		
Square Feet	: 4,640	Units	: 64

49 UNIVERSITY DR PONTIAC MI 48342-2355

14-29-427-009

Commercial and Industrial Property Profile



Note: Please be advised the data included in Property Gateway originates from multiple local municipalities. Data, in regard to properties, may be classified and updated differently by municipalities. If you have any questions, please contact the local community where the data originated.

Owner Information

Owner(s) : IZETTA DAVENPORT
Mailing Address : 404 W NORTHFIELD AVE PONTIAC MI 48340-1323

Location Information

Site Address : 49 UNIVERSITY DR PONTIAC MI 48342-2355
PIN : 14-29-427-009 Neighborhood Code : CRL
Municipality : City of Pontiac
School District : 63030 PONTIAC CITY SCHOOL DISTRICT
Use : 201 BUS IMP (Commercial Business Imp.)
Water Indicator : Y Sewer Indicator : Y
Well Indicator : N Septic Indicator : N

Property Description

T3N, R10E, SEC 29 ORIGINAL PLAT E 45.55 FT OF LOT 21, ALSO E 44.50 FT OF S 22 FT OF LOT 22

Most Recent Sale Since 1994

Date : 10/19/2018
Amount : \$0 Liber : 52296:192
Grantor : 49-51 UNIVERSITY DRIVE Grantee : DAVENPORT, IZETTA

Next Most Recent Sale

Date : 10/12/2016
Amount : \$1 Liber : 49957:200
Grantor : JACK E MCCOY TR
DIANE L MCCOY TR Grantee : 49-51 UNIVERSITY DRIVE

Tax Information

Taxable Value : \$43,730 State Equalized Value : \$61,640
Current Assessed Value : \$61,640 Capped Value : \$43,730
Effective Date For Taxes : 12/01/2020 Principal Residence Exemption : 0%
2019 Taxes 2020 Taxes
Summer : \$2,359.22 Summer : \$2,401.18
Winter : \$74.85 Winter : \$80.94
Village : Village :

Lot Information

Description : LEVEL Acres : 0.075

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Building/Section 1

Building	: 1	Used As	: Day Care Centers
Year Built	: 1960	Effective Year	: 1980
Class	: C	Quality	: Average
No of Stories	: 1	Height Per Story (feet)	: 13
Avg Square Feet	: 2,228	Elevators	: N
Sprinklers	: N	Identical Units	: 1
Total Building Square Footage	: 2,228		

No lump sum improvements Data Available for Building/Section1

Building/Section 1 Yard Adjustments

Description	: Paving (Asphalt)		
Square Feet	: 1,364	Units	: 64

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