



2023/2024 Facility Investigation Completion Report

**Willow Run Company Vehicle Operations (CVO)
Ypsilanti, Michigan**

RACER Trust

July 22, 2024

→ The Power of Commitment

Contents

1.	Introduction and Background	1
2.	Ownership and Operational History	2
3.	Current Use and Future Use	2
4.	Environmental Setting	3
4.1	Regional and Site Geology	3
4.1.1	Overburden	3
4.1.2	Bedrock Geology	3
4.2	Hydrogeology	3
5.	Prior Investigations and Interim Response Actions	4
6.	Scope of Work	5
6.1	2023 Limited Site Wide Groundwater Gauging and Sampling Event	6
6.2	2023/2024 Quarterly Seep Sampling	6
6.3	2023 Utility Corridor Soil Gas Evaluation	7
6.4	SSDS O&M	7
6.5	3D Conceptual Site Modeling	7
7.	Discussion of Results	8
7.1	Groundwater Gauging and Sampling Results	8
7.1.1	Groundwater Conditions Along the Southern Boundary	8
7.2	Quarterly Seep Sampling Results	8
7.3	Utility Corridor Soil Gas Evaluation Results	9
7.4	SSDS O&M Inspection Results	9
7.5	3D Conceptual Site Modeling Results	9
8.	Conceptual Site Model	9
9.	Pathway Analysis	10
10.	Conclusion	11
11.	References	11

Figure Index

Figure 1	Site Location
Figure 2	Tyler Creek Surface Water Sample Locations
Figure 3	Wells and Seeps Sampled and Gauged in 2023
Figure 4	2024 GW Contour Map
Figure 5	2024 GW Databox Figure
Figure 6	2024 GW Databox Figure With Historical Results
Figure 7	Seep Location Map
Figure 8	Soil Gas Probe and Cross-Section Location Map
Figure 9	Soil Gas Probe Cross-Section A-A'
Figure 10	Chlorinated VOC Plumes Over Time
Figure 11	North-South Cross-Section From 3D CSM – M-M'
Figure 12	North-South Cross-Section From 3D CSM – M-M''

Table Index

Table 1	Willow Run Creek Downstream Surface Water Sample Results
Table 2	2023 Groundwater Sample Results
Table 3	Quarterly Seep Sample Results
Table 4	Soil Gas Analytical Results

Appendices

Appendix A	MDEQ GNIAA Determination
Appendix B	Environmental Restrictive Covenant
Appendix C	EGLE GSI TAPS Evaluation for CVO
Appendix D	Willow Run CVO Groundwater and Soil 3D Modeling Parameters
Appendix E	Laboratory Reports
Appendix F	Trend Analysis Graphs
Appendix G	Sub Slab Depressurization O&M Inspection Forms (2022 and 2024)

1. Introduction and Background

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), GHD has prepared this Facility Investigation Completion Report for the Willow Run Company Vehicle Operations (CVO) property located at 2901 Tyler Road in Ypsilanti, Michigan (Site). The Site location is presented on **Figure 1**. This report provides results from groundwater gauging and sampling, seep sampling, and a limited soil gas investigation that were completed in 2023. It also presents a Conceptual Site Model (CSM), based on Site observations and data, which shows that there are no complete pathways to off-Site receptors.

The last Site wide groundwater sampling event was performed in 2017 to monitor constituent concentrations and groundwater flow direction at the Site. Sporadic sampling has been conducted since that time for limited purposes including the GSI evaluation along the northern portion of the Site, adjacent to Willow Run Creek.

The groundwater monitoring program historically has consisted of groundwater sampling, as well as groundwater level monitoring to evaluate groundwater flow conditions. The shallow groundwater at the Site is impacted with chlorinated volatile organic compounds (CVOCs). The main constituents of concern (COCs) at the Site are trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride (VC). Groundwater samples are collected and analyzed for the Target Compound List (TCL) of VOCs as part of the routine sampling protocol.

In 2004, following an application prepared and submitted by Conestoga-Rovers & Associates (now GHD), the MDEQ (now EGLE) granted a groundwater not in an aquifer determination (GNIAA) for the surficial (shallow) unit from which groundwater is sampled at the CVO property (**Appendix A**, letter to Dr. Ken Richards (General Motors) dated September 1, 2004).

An Environmental Restrictive Covenant (ERC) (**Appendix B**) was recorded with the Washtenaw County Register of Deeds for this property in or about June of 2014. (MDEQ Reference No. RC-RRD-201-13-027; Liber 4993, Page 397). The ERC is described in greater detail in Section 5.

In the spring of 2017, Ypsilanti Township completed the Tyler Pond Trestle Replacement and the Tyler Pond Dam Drawdown Project (Tyler Pond Project). The resulting lower water levels changed the hydrogeologic conditions, particularly with respect to the groundwater surface water interface (GSI) pathway at the northern boundary of the Site. A report summarizing GHD's GSI evaluation was submitted to EGLE on August 11, 2021. This investigation confirmed that there is no complete GSI pathway between the northern Site property boundary and Willow Run Creek, following the drawdown of Tyler Pond. EGLE Remediation and Redevelopment Division Groundwater/Surface Water TAPS Team provided a Review and Tracking Form in June of 2022 in response to the GSI Evaluation Report, stating that it agrees with the GSI assessment indicating groundwater in the northern property boundary is not hydraulically connected to the creek following dam removal. See **Appendix C**.

During a conference call with EGLE on August 9, 2022, EGLE questioned whether surface water sampling of Willow Run Creek should be performed and indicated that a file review may clarify whether surface samples are needed. GHD has completed a file review and assessed whether there is a need to sample surface water based on downstream sample results of Willow Run Creek. These results show that there are no Site constituents of concern which have been detected in downstream surface waters since the time Tyler Dam was removed in 2017. See **Table 1**.

Following discussion with EGLE on August 9, 2022, GHD agreed to sample Seeps 1-4 (identified during the September 2018 groundwater monitoring event) seasonally for one year to confirm that there are no remaining GSI concerns along the northern portion of the Site. Additionally, GHD completed a limited groundwater sampling and gauging event to obtain current information regarding Site conditions along the central and southern portions of the Site.

In 2023, RACER and EGLE performed an exercise to rank a portion of the RACER Michigan sites from highest priority to lowest priority. A total of 13 sites were evaluated. This Site was ranked number 9 by GHD and 10 by EGLE (1 is the

highest priority, 13 is the lowest priority). This ranking by both RACER and EGLE indicates conditions remaining on the Site are considered low risk compared to other RACER sites.

Based on the information presented in this report, RACER recommends that the only Site related environmental work moving forward is to continue to perform annual Operations and Maintenance (O&M) with respect to the Sub-Slab Depressurization System (SSDS) in the only remaining building that is occupied at this Site (the Haulaway building located at 2830 and 2850 Tyler Road, currently operated by Turboprop Ventures, LLC).

2. Ownership and Operational History

Prior to 1940, the Site was part of a larger parcel of agricultural land purchased by the Ford Motor Company. In 1941, the United States Defense Plant Corporation of America purchased property from Ford and contracted Ford to construct and operate a bomber production plant north of Willow Run Creek. Ford also constructed various support buildings, an airstrip and a wastewater treatment facility north of Willow Run Creek. Military aircraft were manufactured at the bomber plant from 1941 to 1945.

The CVO portion of the former Willow Run Assembly Plant property (i.e. the Site) is approximately 22 acres located South of Willow Run Creek and was originally the “back 40” of the bomber assembly plant property. In the 1940s and 1950s, paint sludge was disposed of along the border of the Property with Tyler Pond. The Site remained undeveloped until the late 1950s. The current Haulaway Building was constructed between 1956 and 1963, based on aerial photographs of the Site. The Haulaway Building was used as an office and maintenance garage, and the remainder of the Site was used for parking and storage of vehicles. (CRA, 2012).

A dam (Tyler Dam, or Tyler Pond Impoundment) was built on Willow Run Creek (along the northern boundary of the Site) sometime between 1941 and 1943 at Tyler Road, creating Tyler Pond. This pond served as the discharge point for wastewater treatment operations associated with the airport and the bomber production facility. The dam was removed in 2017.

General Motors Company purchased the Willow Run Property from Kaiser-Frazer, including the CVO parcel, in December 1954. (Blasland, Bouck & Lee, Inc., 1997). RACER was created in March 2011 by the United States Bankruptcy Court to clean up and position for redevelopment properties and other facilities owned by the former General Motors Corporation before its 2009 bankruptcy. GM retained ownership of the CVO portion of the Willow Run Property until 2011 when ownership was transferred to RACER Properties, LLC following the bankruptcy. RACER sold the property to ARM Holdings, LLC in June of 2014.

3. Current Use and Future Use

A portion of the Site (the Haulaway Building) is currently operated by Turboprop Ventures, LLC. Turboprop Ventures, LLC performs aircraft engine overhaul, inspection and repair services and features an on-Site test cell. It acquired the property in 2014 and added 25 employees to its workforce. Remediation of the Site was ongoing throughout the marketing and sales process and continued after the sale.

There currently are no operations on-Site except for the turboprop repair business, which is operated by Turboprop Ventures, LLC.

4. Environmental Setting

The Site is in an area zoned as Industrial-Commercial. It is bound to the north and the east by Willow Run Creek, following the removal of the Tyler Pond Impoundment in 2017. It is bound to the south by Tyler Road and the Fons Landfill. It is bound to the west by an industrial / commercial property.

4.1 Regional and Site Geology

4.1.1 Overburden

Topography and overburden in the vicinity of the property are the result of glacial and post-glacial deposition and erosional processes. During the Wisconsin glacial stage, ice sheets of the Huron-Erie glacial lobe advanced across the area of the property. During the advance and retreat of this ice sheet, a series of end moraines (Fort Wayne and Defiance) and a thick sequence of ground moraine (glacial till) comprised of clay, silt and rock fragments were deposited in this area. (Blasland, Bouck & Lee, Inc., 1997)

As the ice sheet retreated to the southeast, large volumes of meltwater formed glacial Lake Maumee between the Fort Wayne Moraine and the retreating glacier. The ice again advanced during the Illinoian glacial stage, forming the Defiance Moraine and subsequently retreated, forming glacial Lake Arkona. The ancient Huron River then eroded through the Fort Wayne moraines to enter Lake Arkona. This resulted in the deposition of large amounts of sand and gravel which formed the surficial deltaic deposits which cover most of the area today. (Blasland, Bouck & Lee, Inc., 1997).

The Site is located in an area of surficial deltaic sands. In the area surrounding the property, the deltaic sands range in thickness from approximately 10 to 20 feet. Fill also is present in the upper 15 to 20 feet. The fill unit varies from fill sands and clays to construction debris and historical waste material. The upper sand unit generally consists of fine to medium grained sands with silts and gravels. Below this unit is a regionally extensive clay unit that extends to approximately 65 feet below ground surface (bgs). (Blasland, Bouck & Lee, Inc., 1997).

4.1.2 Bedrock Geology

The Antrim Shale is the first bedrock formation encountered below the Site. This shale is dark brown to black, bituminous, fissile and finely laminated. Located below the Antrim Shale are carbonate formations of the Traverse Group. The Traverse Group is a generally undivided sequence of limestone and dolomite.

The property is in an area where bedrock is generally encountered between 550 and 600 feet above mean sea level (AMSL)(Conestoga-Rovers & Associates. 1995. "Technical Memorandum Number 7: Geotechnical/Hydrogeologic Investigation - Landfill, DRAFT, Willow Run Creek. Reference No. 4048(29)). During the USEPA Field Investigation Team (FIT) reconnaissance of the WRCS area, a series of boreholes were completed along Willow Run Creek that identified the Antrim Shale at an elevation of approximately 635 feet AMSL. The Antrim Shale is between 50 and 100 feet thick in the vicinity of the property.

The clay till at the base of the upper sand has a measured hydraulic conductivity on the order of 10^{-8} centimeters per second (cm/s) (CRA, 1995). This clay till unit serves as a confining unit to the lower sand aquifer and prevents contaminants from moving vertically.

4.2 Hydrogeology

Historically, groundwater flow at the Site has exhibited a groundwater divide down the center portion of the property in a northwest-southeast trend. Groundwater generally flows to the southeast except for the northwest portion of the Site, where it flows in a northeasterly direction towards Willow Run Creek. Groundwater ranges from approximately 5' bgs along the northwestern portion of the Site to approximately 13' bgs along the southeastern portion of the Site.

Boring logs from two deep wells at the Site, DMW 1 and DMW 2, indicate the confining clay layer is approximately 50 feet thick. The confining, non-water bearing clay layer is present across the Site and typically starts at an elevation of approximately 700 feet MSL. Following removal of the Tyler Pond Impoundment, the surface water elevation of the former Tyler Pond (now referred to as Willow Run Creek) was lowered from 697 ft AMSL (surveyed May 5, 2016) to 685 feet AMSL (surveyed July 17, 2019). Due to this change in surface water elevation in 2017, the hydraulic connection between Site's groundwater and nearby surface water body, Willow Run Creek, is no longer complete.

Groundwater is not used for human consumption at this Site as drinking water is supplied by the municipal water authority.

5. Prior Investigations and Interim Response Actions

Many investigations have been completed at the Site over the years for source evaluation and to delineate impacts within groundwater and soils at various potential areas of concern (PAOC). Additionally, several Interim Response Actions (IRAs) have been completed at the Site. The following is a list of selected Site activities performed through 2023.

- **2003:** Soil excavation (dig and haul) was completed to remove LNAPL containing smear zone on the northeast corner of the Haulaway Building.
- **2004:** A 282-foot-long sheet pile wall installed to prevent DNAPL migration into Tyler Pond. DNAPL was recovered from several wells upgradient of the sheet pile wall following installation on a routine basis. Through 2010, a cumulative volume of approximately 1450 gallons of DNAPL had been recovered, containerized, and disposed of at a TSCA approved incinerator.
- **2007:** In response to the presence of cis-1,2-DCE and TCE groundwater venting to Tyler Pond at concentrations exceeding the final acute value criteria, CRA completed an injection of Edible Oil Substrate (EOS) to stimulate reductive dechlorination of CVOCs.
- **2010:** A french drain was constructed to mitigate the flow of seeping groundwater to Tyler Pond.
- **2011:** GHD determined that there is no continuous groundwater along the southern portion of the Site (beneath Tyler Road and further South) and that Site constituents were not above relevant criteria in the southern boundary wells which had enough groundwater to be sampled. (Summary of Fall 2011 Investigation Activities (CRA, May 2, 2012); See also Figure 3.3 of the RCRA Field Investigation Report (CRA, 2013)).
- **Prior to and Including 2013:** The following IRAs were undertaken, as outlined in the Environmental Restrictive Covenant (ERC) dated 2014 (**Appendix B**):
 - Removal of underground storage tanks and impacted soils west of the Haulaway Building.
 - Chemical Oxidation injections to treat groundwater in localized areas.
 - Test pits that removed buried debris.
- **2013-2014:**
 - Remediation of VOC and PCB impacts (excavation, on-Site conditioning prior to disposal, and disposal) within PAOC 18 (Wells Near the Northern Boundary Along Willow Run Creek), including recovery of DNAPL.
 - Excavation and disposal of paint sludge and impacted soils beneath the northern portion of the Haulaway Building.
 - Installation of a sub-slab depressurization system (SSDS) beneath a portion of the Haulaway Building.

- **2014:**
 - Installation of the infiltration galleries beneath the Haulaway Building and PAOC 18.
 - Start of operation of the SSDS beneath a portion of the Haulaway Building.
 - An ERC (**Appendix C**) was recorded with the Washtenaw County Register of Deeds, and includes the following restrictions to protect human health and the environment:
 - No drinking water wells may be installed or used on the Property.
 - No groundwater extraction wells may be installed or used on the Property except for wells and devices that are part of an MDEQ or USEPA-approved response activity and for short-term dewatering for construction purposes, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable environmental laws and does not cause or result in a new release, exacerbation of any pre-existing environmental condition, or any other violation of environmental laws.
 - The Owner shall not "treat", "store", "dispose", or "release" any Hazardous Substances, on, at, or below the Property, in a manner that would require a permit under RCRA, or equivalent State Law, except pursuant to a plan or permit approved in writing by MDEQ or USEPA, and Grantor or its successor in title.
 - The Owner shall not modify or discontinue operation of the existing SSDS. This includes penetrating the concrete surface within the SSDS area without sealing the penetration.
 - The Owner shall not significantly modify the building structure or HVAC system in any way that adversely impacts the operation of the SSDS unless the Owner takes necessary and appropriate action to adjust or modify the SSDS to avoid any adverse impacts.
 - Owner shall not excavate within certain restricted areas identified on attachments to the ERC without approval from the Grantor.
 - Owner shall not remove any slabs, pavement or other impervious surface on the Property, unless such removal is approved in writing by Grantor, which approval may be conditioned on certain actions by Owner including replacement with an impervious cover. In the event Owner removes any slabs, pavement or other impervious surface on the Property Owner shall be responsible for any and all obligations under environmental laws arising from any such removal, alteration or disturbance, if any, whether or not caused by, arising from or related to, an environmental condition.
- **2017-Present:** Based on a review of public records performed in 2022, surface water samples obtained immediately downstream of the Site (at Willow Run Creek, **Figure 2**) showed no detections of Site COCs since the Tyler Pond Drawdown Project was completed in approximately November of 2017. Downstream surface water sample results through October 2022 are presented in **Table 1**.
- **2018-2019:** A GSI evaluation was conducted between March 2018 and May 2019. The results of this investigation concluded that a GSI pathway does not exist between the northern property boundary and Willow Run Creek.
 - EGLE Remediation and Redevelopment Division Groundwater/Surface Water TAPS team provided a Review and Tracking Form in June 2022 stating that it agrees with the GSI assessment performed by GHD with a recommendation that no further action be taken associated with GSI pathway other than to sample seeps seasonally.

6. Scope of Work

The scope of work for the 2023/2024 field investigations are outlined in the Work Plan for Limited 2023 Groundwater Gauging and Monitoring, and Utility Corridor Investigation (GHD, June 2023). The scope of work consisted of the following tasks:

- Task 1: Limited Site Wide Groundwater Gauging and Sampling
- Task 2: Quarterly Seep Inspection and Sampling
- Task 3: Utility Corridor Soil Gas Evaluation
- Task 4: SSDS O&M

GHD also completed the following task:

- Task 5: 3D Groundwater Modeling

The investigation areas and sampling locations for groundwater and seeps are presented in **Figure 3**.

6.1 2023 Limited Site Wide Groundwater Gauging and Sampling Event

The results of the GSI investigation on the northern property boundary established that Site groundwater is not hydraulically connected to the Willow Run Creek. As a result, a limited groundwater sampling and gauging event was completed to obtain information on the Site conditions along the central and southern portions of the Site. Groundwater levels were collected in July 2023 from 80 monitoring wells to evaluate groundwater flow conditions.

Wells selected for sampling were southern boundary wells and wells with historically higher concentrations of COCs. Groundwater samples were collected in July 2023 from 34 monitoring wells and analyzed for TCL VOCs. The monitoring wells are listed immediately below and are shown in **Figure 3**.

- Western and Eastern Boundary Wells: MW19-33, MW-13
- Southern Boundary Wells: MW-18, MW-4, MW19-01, MW19-24, MW19-02, MW19-03, MW-14, MW19-04; MW-1U-93; MWOS-02, MW-6U-93; MWOS-05; GS-7
- Wells near Haulaway Building: MW-19-42, IW-9, IW-10, IW-33, IW-6
- Site Wells: MW-19-07, MW-19-38, MW19-45, MW19-43, MW19-11, MW19-53, MW-5, MW19-56, MW19-41, MW19-54
- Wells Near the Northern Boundary Along Willow Run Creek (PAOC 18 Wells): GS-20, GS-20D, GS-21, GS-21D One monitoring well identified for sampling (MW-19-43) was unable to be sampled due to obstructions on Site. The results of the limited Site wide groundwater gauging and sampling event are presented in Section 7.1.

6.2 2023/2024 Quarterly Seep Sampling

The seasonal seep inspection and sampling events occurred in April 2023, July 2023, October 2023, and January 2024. Seeps previously identified as Seeps 1 – 4 during the September 2018 groundwater monitoring event were evaluated for any flow. A fifth seep was identified during the first event and this seep was monitored during each event. Active seeps were sampled for TCL VOCs. Seep locations are shown in **Figure 3** and the seeps are summarized immediately below:

Seep 1: The seep is located along the Northwest border of the Site. The water from this seep flows into and joins Outfall #1 through an area of phragmites. The flow was minimal with bacterial/iron staining.

Seep 2: The seep is located along the Northwest border of the Site. The water from this seep flows into a large area of phragmites and mixes with an area of surface water that appears to infiltrate into the ground. The flow was moderate with bacterial/iron staining.

Seep 3: The seep was identified in 2017 as part of the Site-wide groundwater sampling event. It is located approximately 150 feet southeast of Seeps 1 and 2. This seep was dry during all monitoring events. Therefore, no samples were collected.

Seep 4: The seep was identified in 2017 as part of the Site-wide groundwater sampling event. It is located approximately 360 feet east of Seep 3. This seep was dry during all monitoring events. Therefore, no samples were collected.

Seep 5: The seep is located approximately 100 feet east of Seep 4 at an apparent area of infiltration amongst phragmites. The flow was noted to be minimal.

The three wet seeps (Seeps 1, 2 and 5) sampled during each of the four events were analyzed for TCL VOCs. The results are presented in Section 7.2.

6.3 2023 Utility Corridor Soil Gas Evaluation

CVOC impacted groundwater is present at the southern edge of the Site, where it comes within proximity to an east-west trending utility corridor located under and adjacent to Tyler Road on its northern boundary. Prior to this investigation, the vapor intrusion pathway associated with the utility corridors was determined to be the only pathway that had not been completely ruled out. As a result, GHD completed an extensive assessment of underground utilities that could potentially provide a pathway for contaminant migration to off-Site receptors. This study utilized sewer drawings obtained from the Ypsilanti Community Utilities Authority (YCUA) in addition to sewer location information that GHD already had in its possession.

Although the utilities on-Site slope to the north and the utilities along the southern property boundary slope to the east, it was unknown whether vapors were migrating to the west within this utility corridor (there are no potential receptors to the east). In December of 2023, following receipt of a permit from the Washtenaw County Road Commission, a soil gas probe was installed to a depth of 6-feet bgs, immediately above the 18-inch sanitary sewer line on the southwest side of the Site, to evaluate presence of soil gas within the utility corridor to the west of the area where CVOC-impacted groundwater and the sanitary sewer are in proximity. See **Figure 8** (Soil Gas Probe and Cross-Section Location Map) and **Figure 9** (Soil Gas Probe Cross-Section A-A'). This soil gas sample was obtained to determine if there is a potentially complete pathway for soil gas to reach potential receptors. Soil gas was analyzed for Site VOCs. A 1-Liter Summa Gas Sampler was utilized to obtain the sample. Samples were analyzed using EPA Method TO-15. Standard QA/QC procedures were followed, including use of a helium shroud. The soil gas sampling results are presented in Section 7.3.

6.4 SSDS O&M

Two new replacement fans were installed in May of 2023 to replace inoperable fans. Inspections of the SSDS system were performed on December 8, 2022 and May 21, 2024. The results of those inspections are provided in Section 7.4. RACER has a stewardship program in place and is working to incorporate remote monitoring that will advise on any issues with the operation of the SSDS.

6.5 3D Conceptual Site Modeling

GHD prepared a 3-Dimensional Conceptual Site Model (3D CSM) of the Site to document current conditions, assess potential risk to off-Site receptors and to provide support for the findings outlined in this Facility Investigation Completion Report. The model incorporates: (1) geologic data obtained from soil borings; (2) groundwater analytical data from 2011 to 2023, separated by year as a time series; and (3) soil analytical data collected from 1996 to 2019. The geologic data consists of simplified stratigraphy from borehole logging data collected on Site. The groundwater and soil analytical data includes trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). The model provides a visualization and estimation of groundwater plumes and soil impacts in the affected area by interpolating analytical data in time and space. The modeling methodology is presented in **Appendix D** (Willow Run CVO Groundwater and Soil 3D Modeling Parameters). The results of this modeling effort are presented in Section 7.5 (3D Conceptual Site Modeling Results).

7. Discussion of Results

The results of the above-mentioned work are presented in Sections 7.1 through 7.5.

7.1 Groundwater Gauging and Sampling Results

Figure 4 presents the groundwater contour map from water levels collected during the groundwater sampling event in July 2023. Groundwater from the northern area of the Site flowed primarily north towards Willow Run Creek and groundwater from the central and western areas of the Site flowed primarily south towards Tyler Road. The groundwater contour map is generally consistent with historic data. MW-OS-02 located south of Tyler Road was dry, indicating that groundwater is not continuous south of Tyler Road. This lack of continuous groundwater south of Tyler Road is consistent with observations made during previous years.

The analytical results of the 2023 groundwater sample event are presented in **Table 2**. Laboratory analytical reports and data validation reports are presented in **Appendix E**. **Figure 5** summarizes VOC analytical results for groundwater during the 2023 event. The 2023 data are generally consistent with historic data except that overall VOC concentrations have been decreasing over time. See, e.g., **Appendix F** (COC Trend Charts). **Appendix F** includes six trend analysis graphs showing the concentrations of three COCs (TCE, cis-1,2-DCE and VC) for the on-Site and off-Site wells. In general, groundwater concentrations of VOCs for the wells sampled in July 2023 have either decreased or remained stable since 2016. **Figure 6** provides a summary of analytical results of VOCs, showing both historical and July 2023 results. These results indicate that the mass of VOCs is decreasing over time.

7.1.1 Groundwater Conditions Along the Southern Boundary

The area of investigation along the southern boundary of the Site consisted of eight on-Site wells north of Tyler Road and four off-Site wells south of Tyler Road. As referenced above, **Appendix F** includes the trend analysis graphs showing the concentration trends of TCE, cis-1,2-DCE and VC for the on-Site and off-Site wells. The trend analysis shows constituents decreasing in concentration since the last Site-wide sampling event in 2017.

Elevated VC and Cis-1,2-DCE was observed in three on-Site wells (MW-19-24, MW-19-03, and MW-19-02). Current results are consistent with historical results and indicate no off-Site migration of Site COCs. The off-Site wells located downgradient of the Site wells do not show any exceedances. A continuous groundwater source is not observed along the southern boundary of the Site, south of Tyler Road.

VC and Cis-1,2-DCE concentrations in groundwater are elevated near the southern property boundary in the vicinity of MW19-02. The edge of this plume appears to terminate abruptly on the southern boundary of the Site based on sampling results from wells that contained water south of Tyler Road.

There is no continuous groundwater along the southern boundary of the Site, south of Tyler Road. ((CRA, 2013 (See Table 1 and cross-section G-G' showing that TWOS-03 located south of Tyler Road, was dry; *see also* cross-section D1-D1' showing that TWOS-01, south of Tyler Road, was dry.)). The results in 2013 were consistent with the observations in 2024, namely that MW-OS-02 south of Tyler Road was dry indicating discontinuous groundwater in this area.

7.2 Quarterly Seep Sampling Results

The analytical results of the 2023/2024 seep sample events are presented in **Table 3**. **Figure 7** shows the locations of the seeps. **Table 3** presents a summary of the analytical results from the four quarterly seep sampling events (April 2023, July 2023, October 2023 and January 2024). The results of all four seep sampling events show no exceedances of GSI criteria. As a result, the seeps have been ruled out as a pathway of contamination to Willow Run

Creek. The seep data is supported by the downstream surface water sampling of Willow Run Creek which shows no detections of Site constituents since Tyler Dam was removed in 2017. See **Table 1**.

7.3 Utility Corridor Soil Gas Evaluation Results

The soil gas sample obtained from the fill material above the 18-inch sanitary line within the utility corridor along Tyler Road showed no exceedances of relevant criteria. **Figure 8** shows the location of the soil gas probe and **Figure 9** is a cross-section showing the placement of the soil gas probe in relation to the 18-inch sanitary line. The 18-inch sanitary line was chosen for this analysis as it is on the northern side of the utility corridor and would likely be first to capture any soil gas or contaminated water from the plume to the north. The location was also chosen because the 18-inch sanitary line is fed from an area of potential receptors along the pipe trace to the west and south. Analytical results are in **Appendix E**. **Table 4** presents the soil gas analytical results. These results show there is no complete soil gas pathway between the impacted groundwater on the southern edge of the Site and off-Site receptors along the pipe trace to the west and south of the Site.

7.4 SSDS O&M Inspection Results

The SSDS inspections performed on December 8, 2022 and on May 21, 2024 indicate that the system is operating properly and that it continues to be protective of human health and the environment. See **Appendix G**, SSDS Inspection Forms.

7.5 3D Conceptual Site Modeling Results

The 3D CSM of current conditions developed in 2024 has been used to help develop and inform the CSM. The 3D CSM provides a description of relevant Site features and the surface and subsurface conditions to show the extent of identified contaminants of concern and the risk, or lack thereof, that they pose to potential receptors.

The results of the 3D CSM confirm that there are decreasing trends of the concentration of VOC constituents in the groundwater on-Site. **Figure 10** was developed from the 3D CSM showing the reduction in size and concentration of Site COCs over time (TCE, Cis-1,2-DCE and VC, respectively).

The 3D CSM also shows that the lack of a GSI connection along the northern boundary results from the pinching out of sands and silts on the southern bank of Willow Run Creek, above the clay bank and above the surface water. See **Figures 11 and 12**, North-South Cross-Sections. **Figures 11 and 12** also are useful to show that there is no continuous groundwater along the southern boundary of the Site, south of Tyler Road.

8. Conceptual Site Model

This CSM is intended to provide a concise, narrative overview of the project and Site conditions, such that a reader with minimal technical background and/or no experience at this Site can understand the relevant Site characteristics and issues. Scientific data has been presented in prior reports which have been submitted to the MDEQ/EGLE for a comprehensive review independent from this CSM. Any statements of conceptual understanding presented in this CSM are based on the most recent data evaluations up to the date of CSM submission.

The CSM that has been developed is based on decades of investigation and is supported by the 3D Model. The Site geology and hydrogeology are presented in Sections 4.1 and 4.2 (above) and will not be restated here. The following is a summary of Site constituents, contaminant migration, potential receptor exposure and Site boundary conditions which further define the CSM.

Soil Impacts

The constituents of concern in soils are volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), inorganics, and polychlorinated biphenyls (PCBs). These impacts have been fully delineated. See, e.g., Section 1.3 of GSI Evaluation Report, GHD, August 11, 2021.

Groundwater Impacts

As outlined in **Figures 10, 11 and 12**, the plume size and concentrations for TCE, Cis-1,2-DCE and VC have been shrinking over time. The trend charts also show decreasing concentrations in specific wells over time. **Appendix F**. The plume along the southern boundary of the Site terminates abruptly along the southern property boundary and no impacts have been detected on the south side of Tyler Road, where only discontinuous groundwater is present.

Analysis of Potential Receptors

The groundwater present in the shallow water bearing unit at the Site has been determined by EGLE to be groundwater not in an aquifer (GNIAA). See **Appendix A**. Historical and recent groundwater sample results show that there is a reduction in the size and concentrations of the TCE, Cis-1,2-DCE and VC plumes on-Site over time. See **Figure 10**. The reduction in the mass of Site constituents over time, both on-Site and off-Site where present, also can be observed in **Appendix F**, which contains trend analysis graphs that plot concentrations over time of TCE, Cis-1,2-DCE and VC for both on-Site and off-Site wells.

The northern and eastern boundaries of the Site are bounded by Willow Run Creek. While there are elevated levels of TCE, Cis -1,2-DCE and VC along the northern Site boundary, there is no GSI connection to the surface water since 2017, when the Tyler Dam was removed. See **Appendix C**: EGLE GSI TAPS Evaluation for CVO. This is supported by downstream surface water samples obtained from 2017 following the dam removal, until 2022, which show non detections for Site constituents. See **Table 1** (Willow Run Creek Downstream Surface Water Sample Results) and **Figure 2** (Tyler Creek Surface Water Sample Locations). The groundwater along the eastern boundary of the Site is not impacted by the chlorinated solvent plumes, so GSI is not a concern along that boundary.

The southern boundary of the Site contains elevated levels of Cis-1,2-DCE and VC along the property line. However, these constituents have not been detected in the off-Site wells south of Tyler Road, along the northern boundary of Fons' Landfill. Additionally, there is no continuous groundwater in the off-Site wells south of Tyler Road, as outlined above.

The groundwater along the western boundary of the Site is not impacted by the chlorinated solvent plumes. The drinking water pathway is not complete as drinking water is supplied by a municipality and the ERC prohibits the installation of drinking water wells on-Site.

9. Pathway Analysis

Recent and historical investigations have established the following with respect to incomplete pathways at this Site:

- In 2004, following an application prepared and submitted by CRA, the MDEQ granted a groundwater not in an aquifer determination (GNIAA) for the surficial (shallow) unit from which groundwater is sampled at the CVO property.
- There is no GSI connection between groundwater on-Site and Willow Run Creek, following the lowering of Tyler Pond in 2017. See **Appendix C**, EGLE GSI TAPs Evaluation for CVO.
- From the time Tyler Dam was removed in 2017 through 2022 (the last publicly available data that was tabulated), there are no detectable levels of Site constituents in Willow Run Creek, downstream of the Site, further confirming the GSI evaluation results. See **Table 1**.
- Based on a total of four inspections and sampling events in 2023 and 2024, the seeps along the northern boundary of the Site are either dry, or do not have any exceedances of relevant GSI criteria.

- There is no continuous groundwater along the southern boundary of the Site, south of Tyler Road. The results in 2024 were consistent with the observations in 2013 (CRA, 2013), namely that there is no continuous groundwater south of Tyler Road (as indicated by MW-OS-02 which was dry in 2024).
- Deed restrictions via use of an Environmental Restrictive Covenant have been recorded on the property as outlined above. See ERC, **Appendix B**.
- Potential vapor intrusion risk to workers inside the only occupied building on-Site has been mitigated through the installation and operation of an SSDS. Groundwater (and soil) volatilization to indoor air is not a complete pathway since an SSDS is currently operating properly beneath the portion of the building where impacts exist and an ERC is in place to address any future buildings.
- Based on the soil gas sampling completed above the 18-inch sanitary sewer on the southern boundary of the Site, the utility corridor migration pathway has been eliminated for volatilization to indoor air to potential off-Site receptors.
- Trend analysis of Site COCs in groundwater show a decreasing trend over time, showing that natural attenuation is occurring. See **Appendix F**.

The information presented above establishes that any remaining potential risks to human health or the environment have been evaluated and shown to be incomplete.

10. Conclusion

Based on the information presented above, documented impacts at this Site constitute minimal risk to receptors and any off-Site receptors. EGLE concurred with this condition during the Site prioritization exercise described in Section 1. As a result, GHD recommends continuing only ongoing operations and maintenance of the SSDS in the occupied on-Site building and that no further investigative or remedial work be performed. This recommendation is made based on the information presented in this report and supports efforts by RACER and EGLE to prioritize use of funds across RACER's Michigan sites and have sufficient budget to address higher priority sites.

11. References

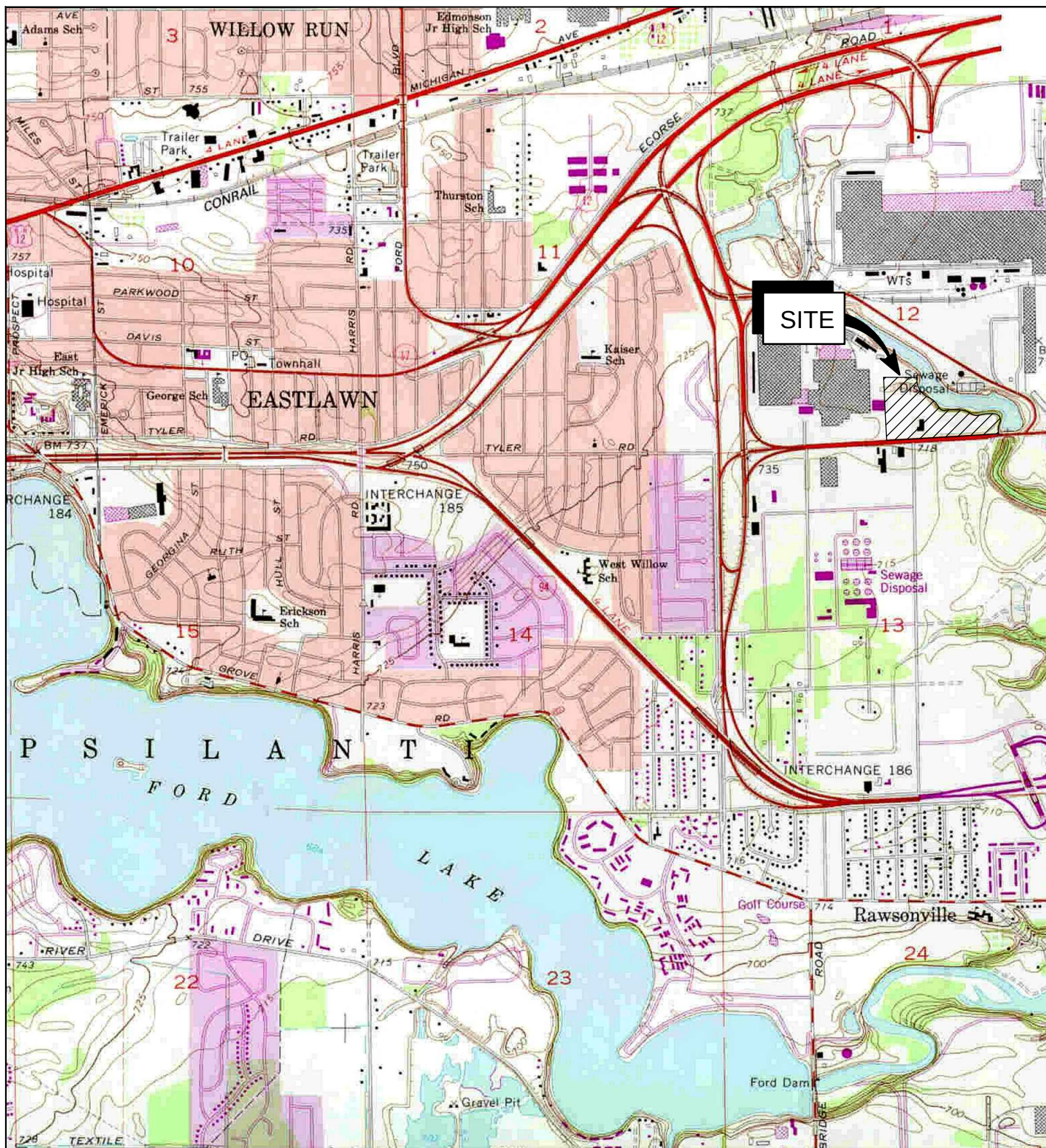
CRA. 1995. Technical Memorandum Number 7: Geotechnical/Hydrogeologic Investigation - Landfill, DRAFT, Willow Run Creek. Reference No. 4048(29).

CRA. January 2012. Revised Site Summary Report, Former General Motors Company Vehicle Operations Area, Ypsilanti, Michigan (Rpt. 8).

CRA. 2013. RCRA Field Investigation Report.

Blasland, Bouck & Lee, Inc. June 2016. Document of Existing Conditions; Vol 1 (available at: <https://www.racertrust.org/properties/willow-run-company-vehicle-operations#property-tab-enfos>).

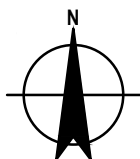
Figures



SOURCE: USGS QUADRANGLE MAP;
YPSILANTI EAST, MICHIGAN

0 1000 2000 ft
1" = 2000 ft

Coordinate System:
<INSERT HERE>

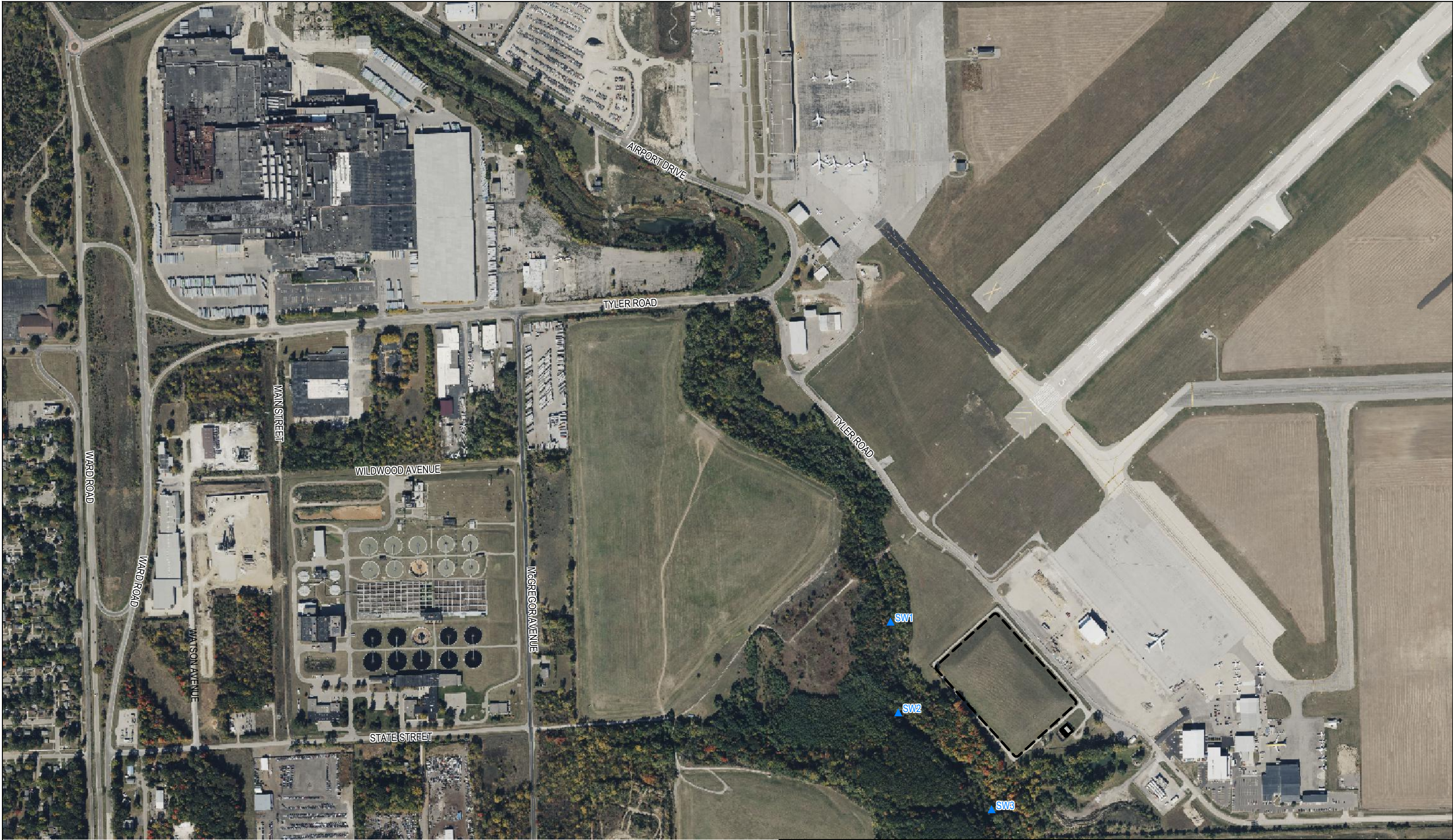


WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Project No. 11223983
Date July 2021

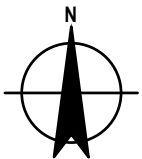
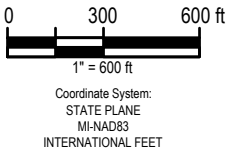
SITE LOCATION MAP

FIGURE 1



LEGEND

▲ SURFACE WATER SAMPLE LOCATION

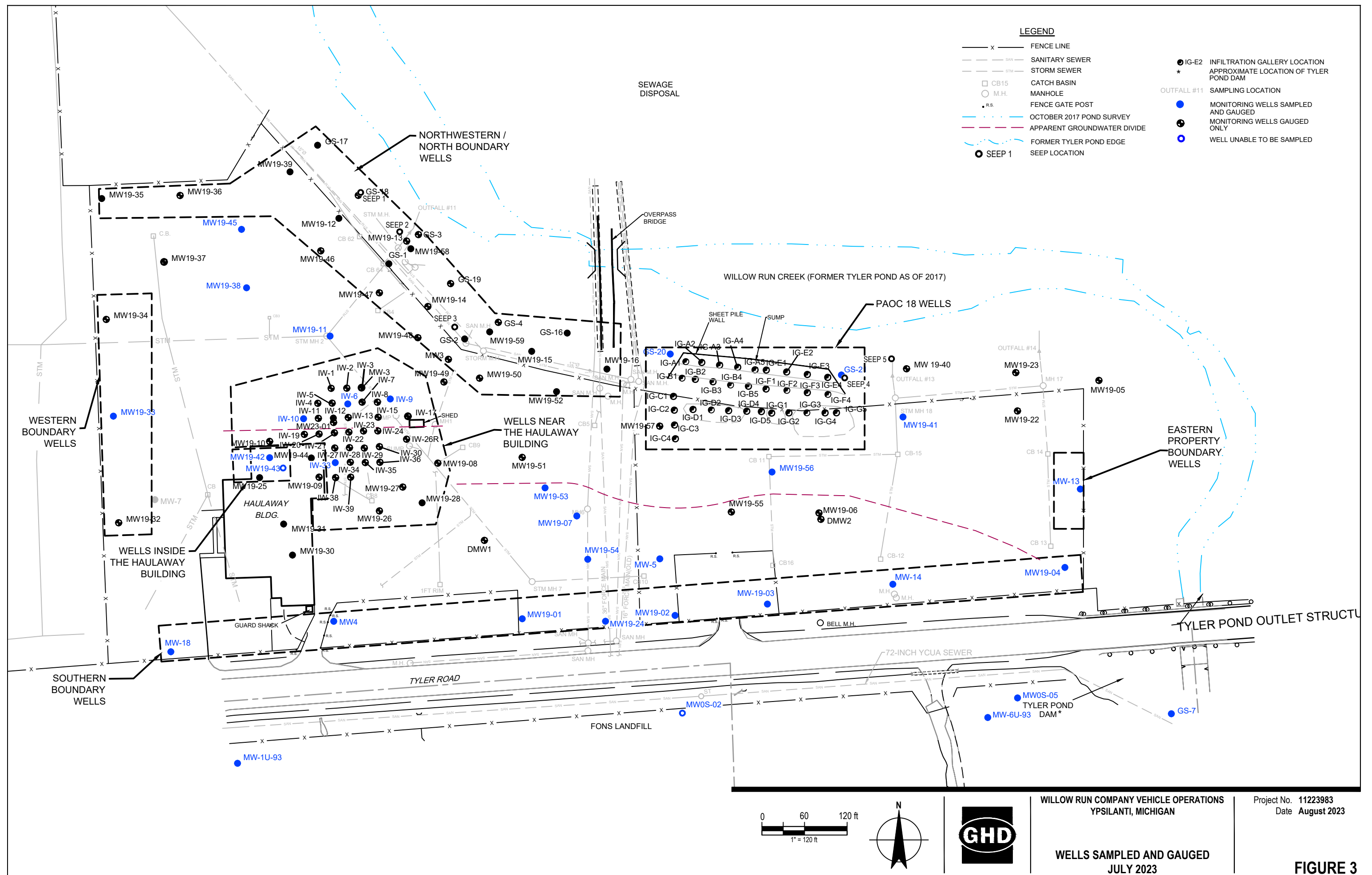


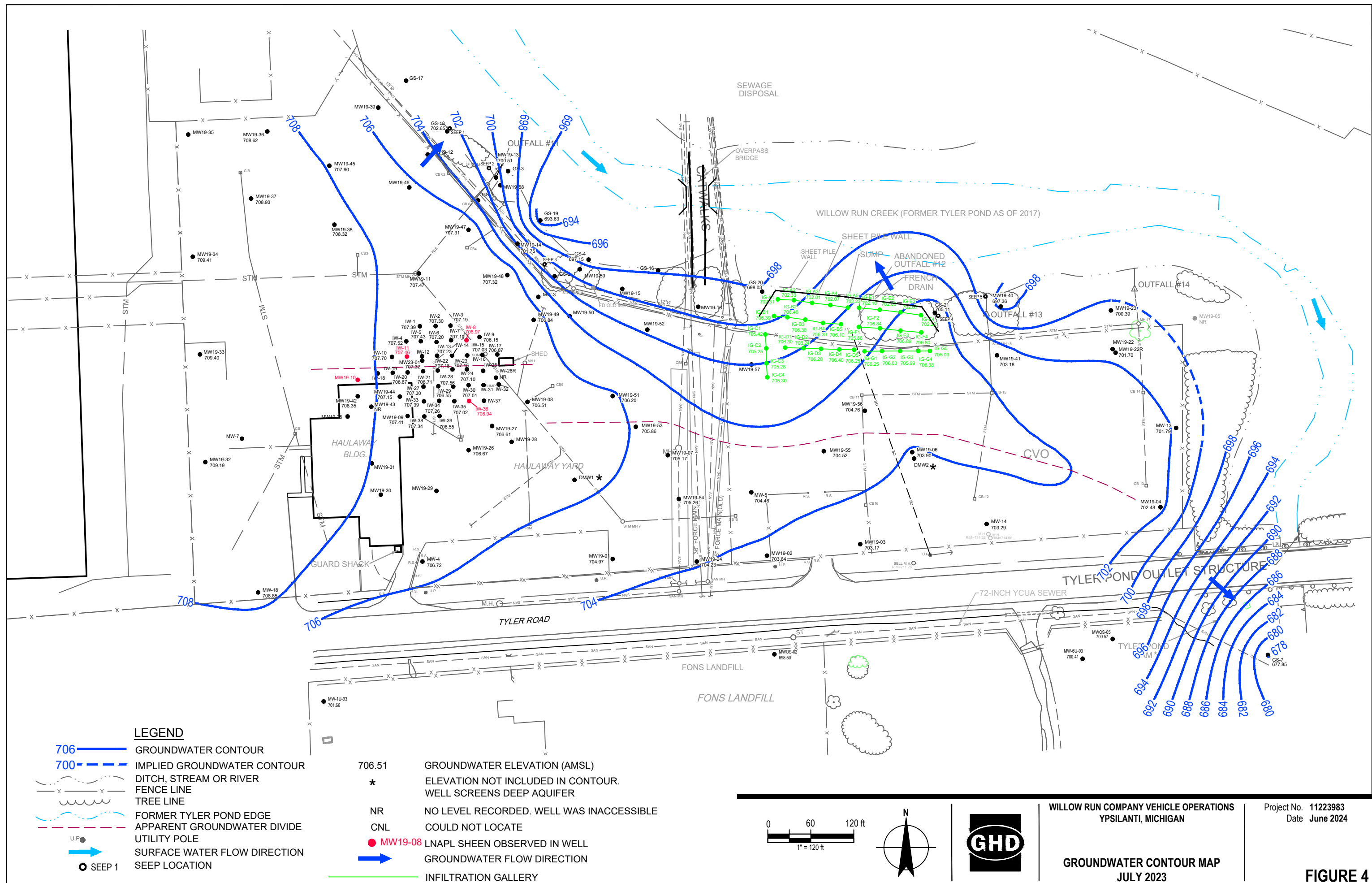
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

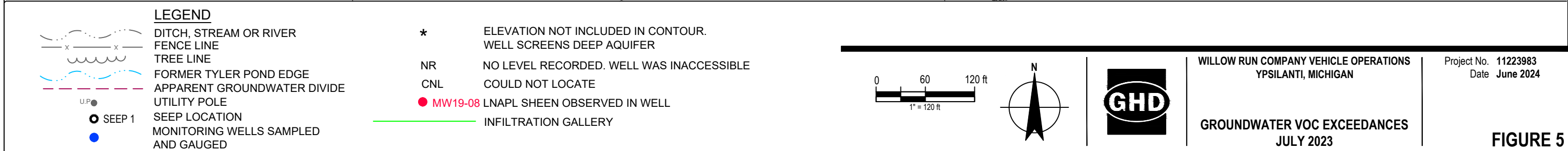
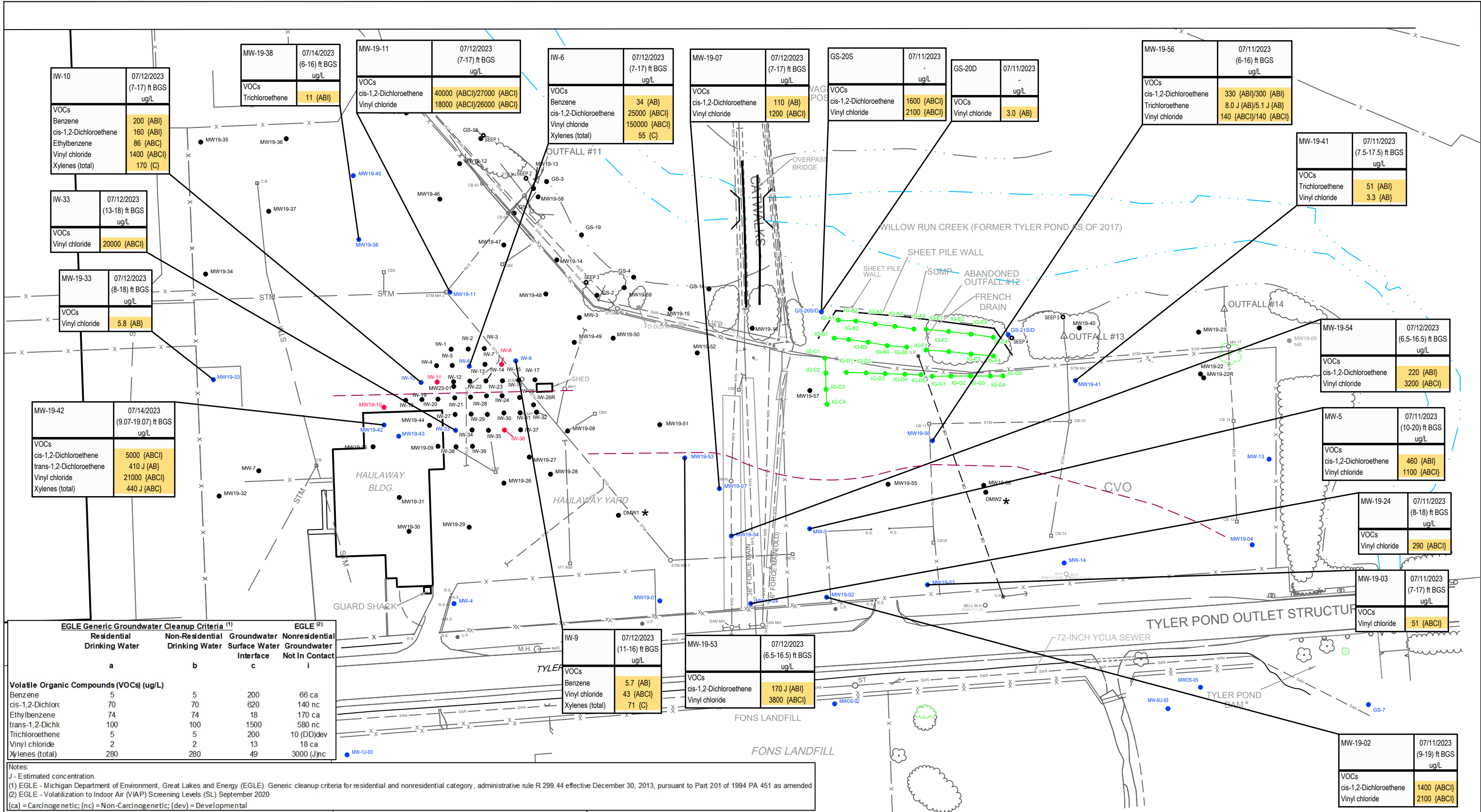
**SURFACE WATER
SAMPLE LOCATIONS**

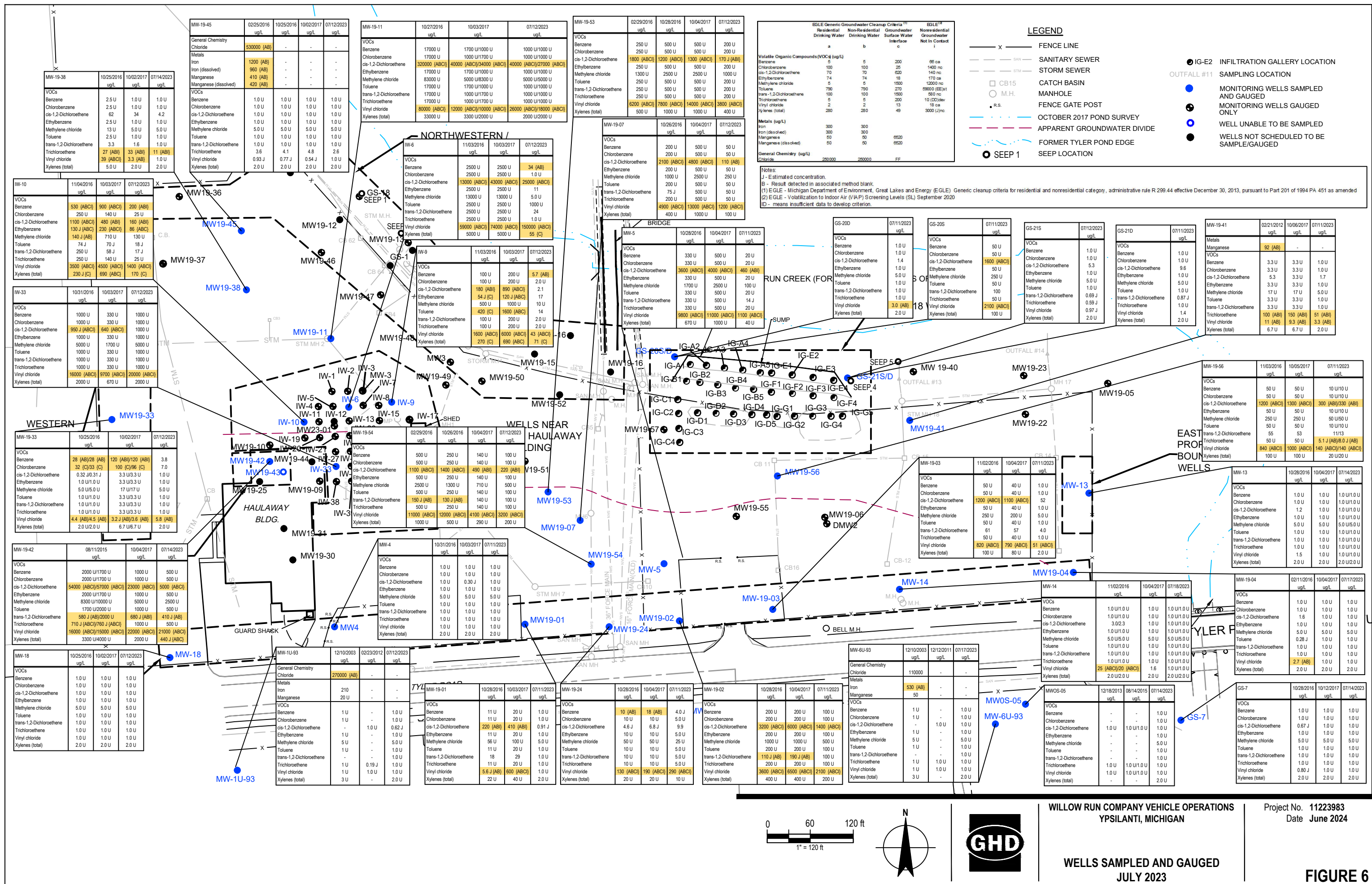
Project No. 11223983
Date March 2023

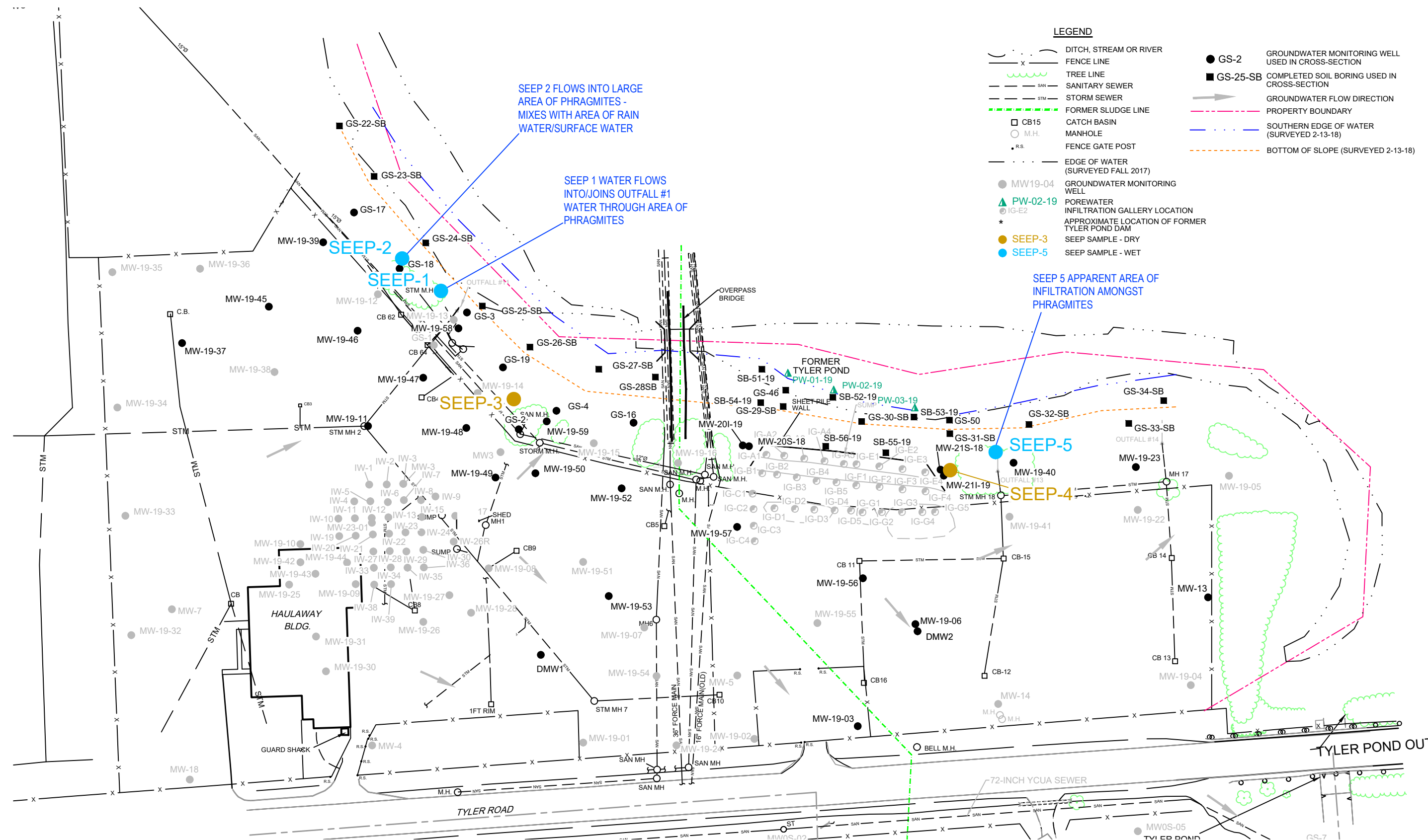
FIGURE 2

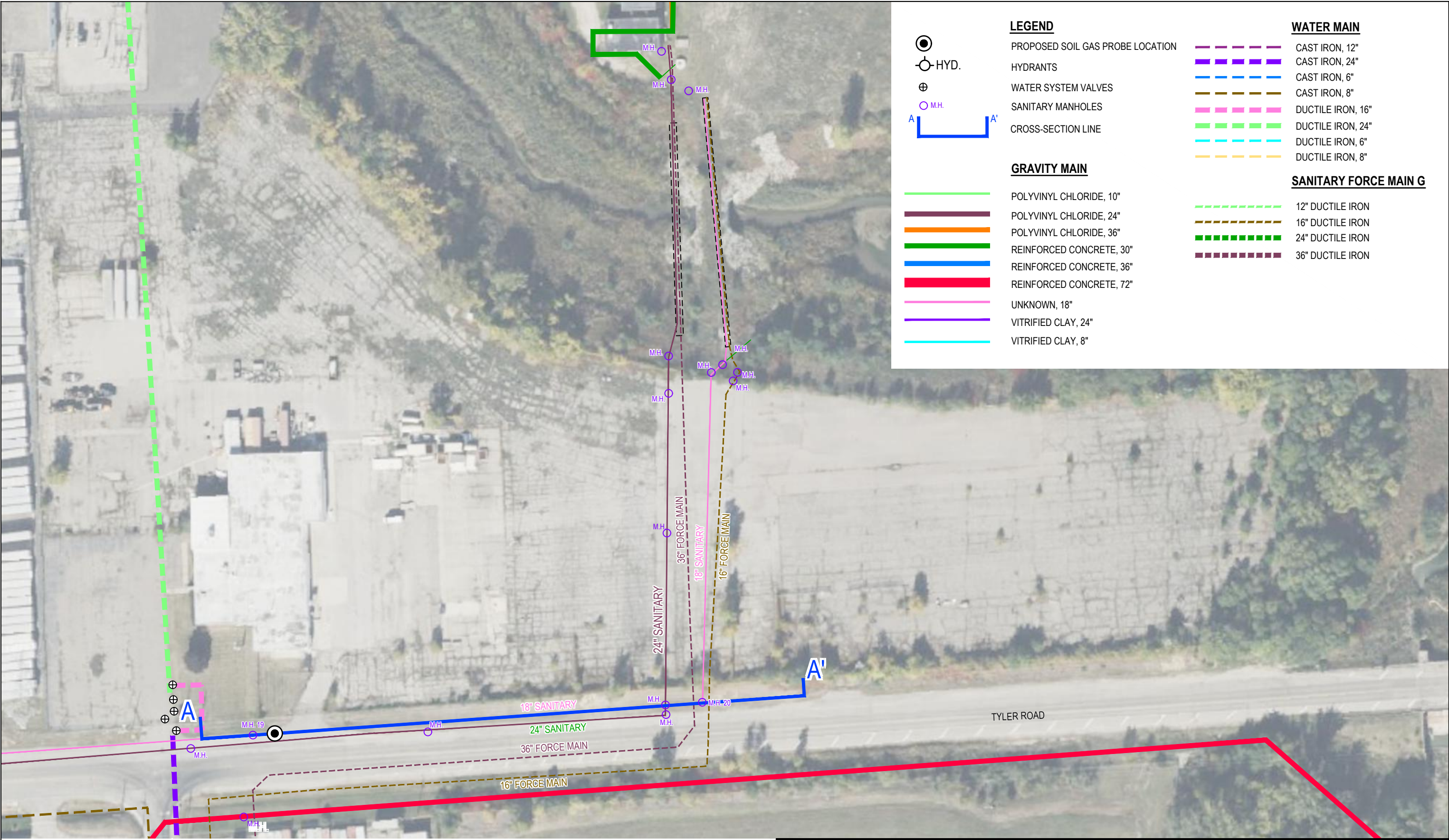












PROPOSED SOIL GAS PROBE LOCATION

HYDRANTS

WATER SYSTEM VALVES

SANITARY MANHOLES

CROSS-SECTION LINE

POLYVINYL CHLORIDE, 10"

POLYVINYL CHLORIDE, 24"

POLYVINYL CHLORIDE, 36"

REINFORCED CONCRETE, 30"

REINFORCED CONCRETE, 36"

REINFORCED CONCRETE, 72"

UNKNOWN, 18"

VITRIFIED CLAY, 24"

VITRIFIED CLAY, 8"

CAST IRON, 12"

CAST IRON, 24"

CAST IRON, 6"

CAST IRON, 8"

DUCTILE IRON, 16"

DUCTILE IRON, 24"

DUCTILE IRON, 6"

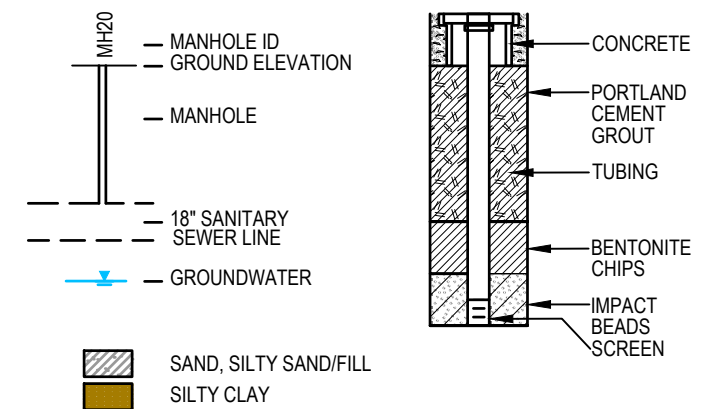
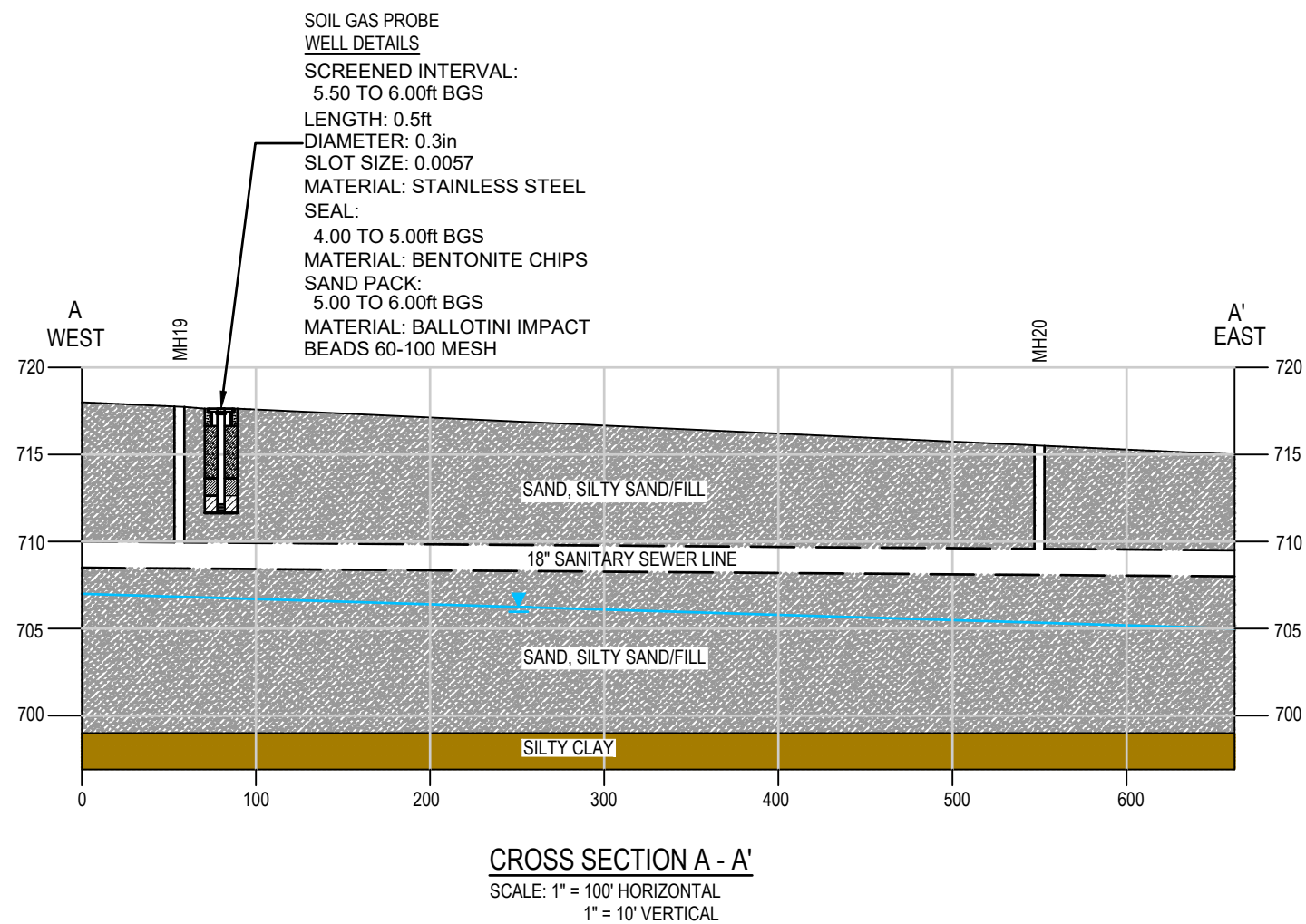
DUCTILE IRON, 8"

12" DUCTILE IRON

16" DUCTILE IRON

24" DUCTILE IRON

36" DUCTILE IRON



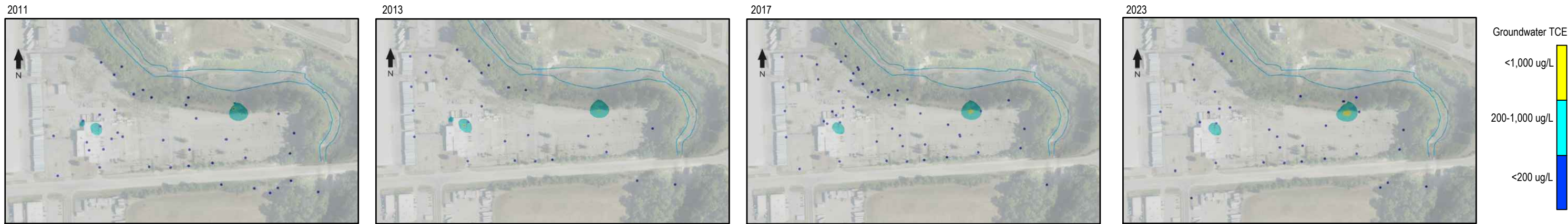
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Project No. 11223983
Date January 2024

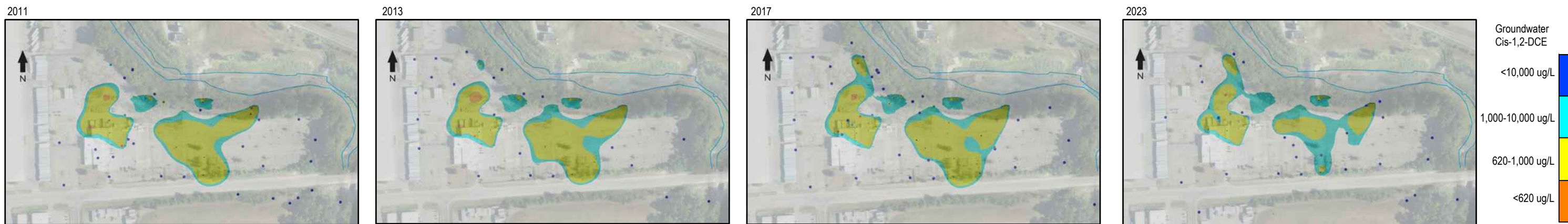
CROSS-SECTION A-A'

FIGURE 9

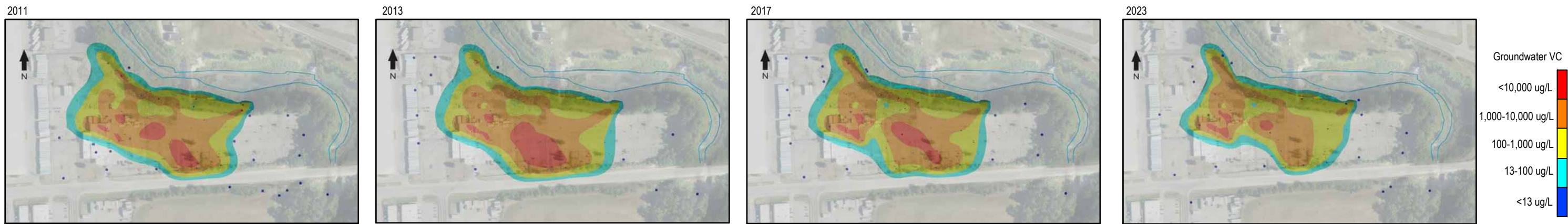
TCE IN GROUNDWATER



Cis-1,2-DCE IN GROUNDWATER



VC IN GROUNDWATER

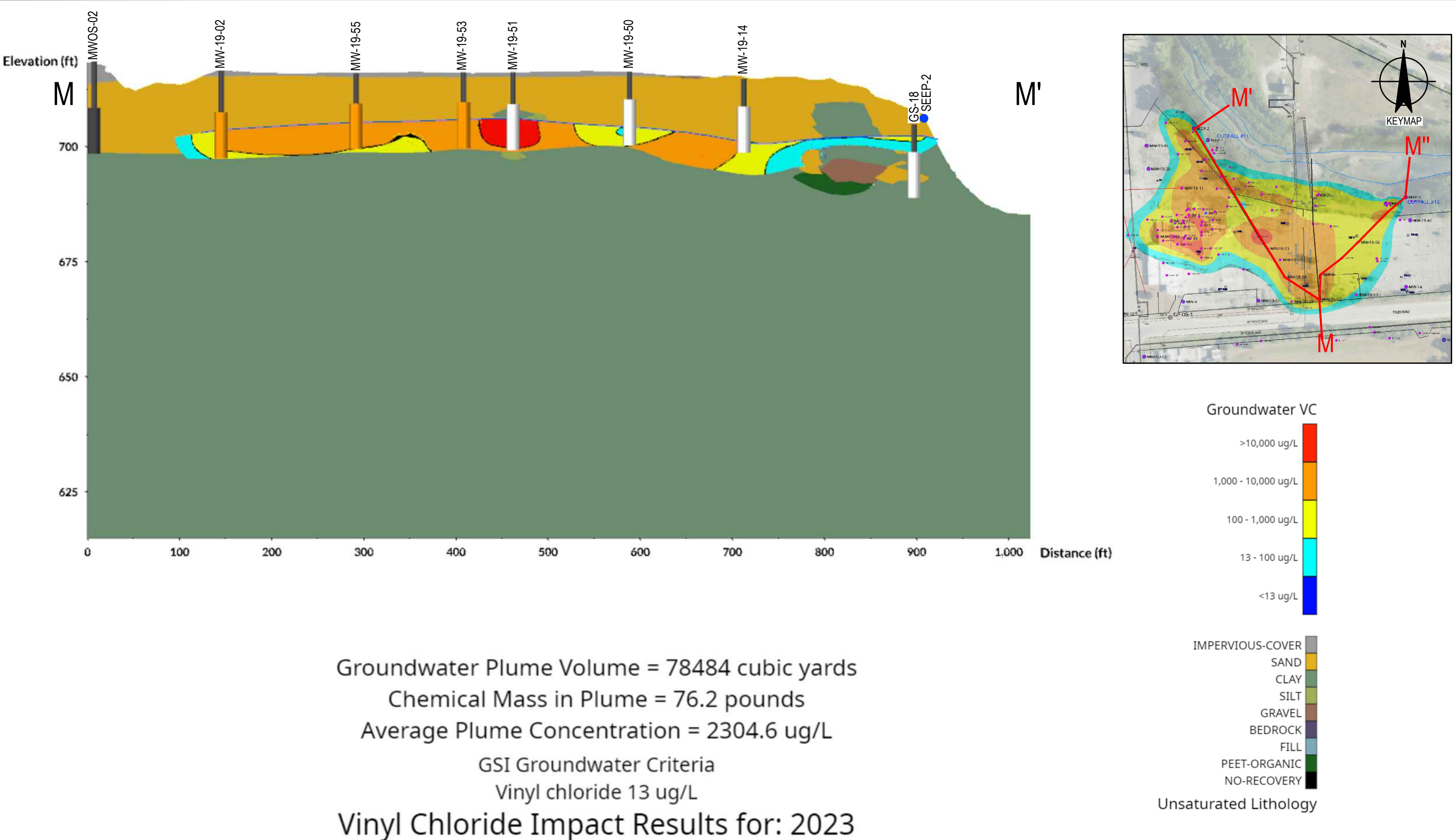


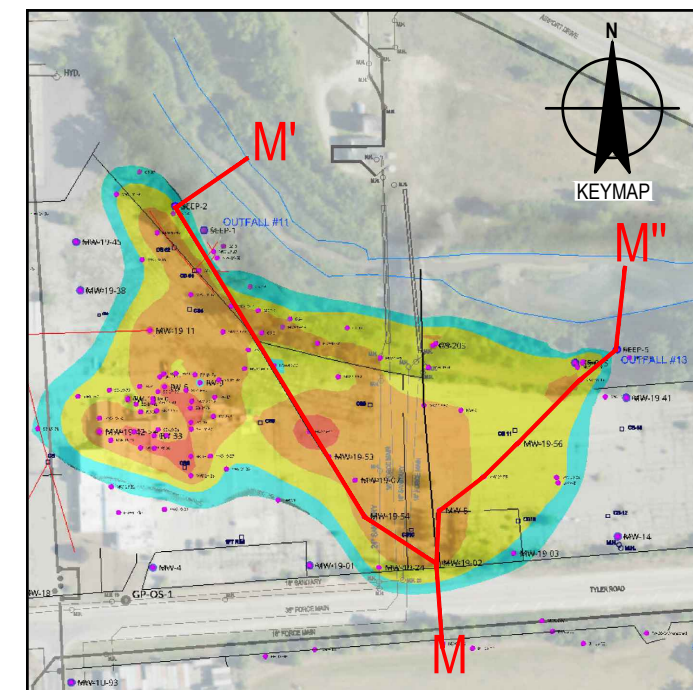
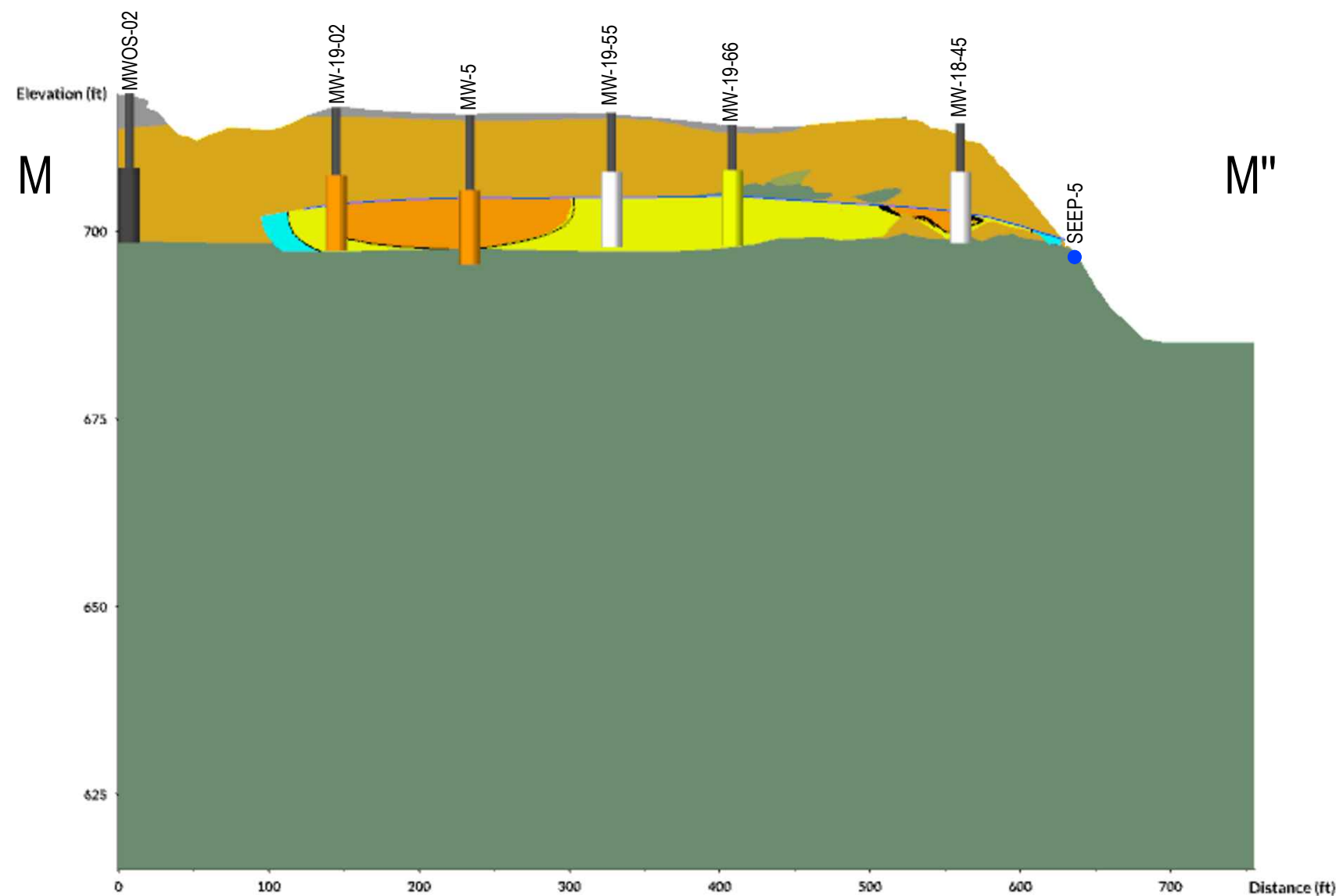
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Project No. 11223983
Date June 2024

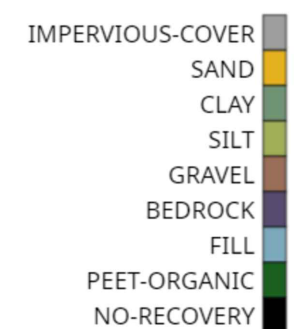
CHLORINATED VOC PLUMES OVER TIME

FIGURE 10





Groundwater VC

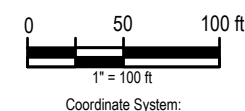


Unsaturated Lithology

Groundwater Plume Volume = 78484 cubic yards
 Chemical Mass in Plume = 76.2 pounds
 Average Plume Concentration = 2304.6 ug/L
 GSI Groundwater Criteria
 Vinyl chloride 13 ug/L
Vinyl Chloride Impact Results for: 2023

LEGEND

WELL NOT SAMPLED THIS YEAR
 WELL WAS DRY



WILLOW RUN COMPANY VEHICLE OPERATIONS
 YPSILANTI, MICHIGAN

3D GROUNDWATER MODEL:
 CROSS-SECTION M-M'

Project No. 11223983
 Date June 2024

FIGURE 12

Tables

Table 1
Surface Water Sample Results
Willow Run Company Vehicle Operations
Ypsilanti, Michigan

Date	PCE (ppb) ug/l SW1	TCE (ppb) ug/l SW1	1,2 DCE (total) (ppb) ug/l SW1	VC (ppb) ug/l SW1	PCE (ppb) ug/l SW2	TCE (ppb) ug/l SW2	1,2 DCE (total) (ppb) ug/l SW2	VC (ppb) ug/l SW2	PCE (ppb) ug/l SW3	TCE (ppb) ug/l SW3	1,2 DCE (total) (ppb) ug/l SW3	VC (ppb) ug/l SW3
April 2013	ND	0.21	0.5	0.41	ND	0.19	0.44	0.36	ND	ND	0.47	0.36
July 2013	ND	ND	0.72	0.64	ND	ND	0.65	0.53	ND	ND	0.56	4
October 2013	ND	ND	0.64	0.48	ND	ND	0.67	0.36	ND	ND	0.51	0.25
January 2014	ND	0.37	0.85	0.52	ND	0.28	0.66	4	ND	0.26	0.67	0.32
April 2014	ND	ND	ND	0.38	ND	ND	ND	0.3	ND	ND	ND	0.28
October 2014	ND	ND	0.52	0.36	ND	ND	0.37	ND	ND	ND	0.32	ND
January 2015	ND	0.23	0.53	0.34	ND	0.19	0.44	ND	ND	ND	0.43	ND
April 2015	ND	ND	0.39	0.33	ND	ND	0.36	ND	ND	ND	0.29	ND
July 2015	ND	ND	0.43	ND	ND	ND	0.41	ND	ND	ND	0.33	ND
October 2015	ND	ND	0.41	ND	ND	ND	0.32	ND	ND	ND	0.26	ND
January 2016	ND	ND	0.55	0.39	ND	ND	0.44	ND	ND	ND	0.34	ND
July 2016	ND	ND	0.45	ND	ND	ND	0.37	ND	ND	ND	0.26	ND
January 2017	ND	0.38	0.58	ND	ND	0.38	0.58	ND	ND	ND	ND	ND
11/1/2017	Tyler Pond Drawdown Completion				Tyler Pond Drawdown Completion				Tyler Pond Drawdown Completion			
July 2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
October 2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
January 2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
April 2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
July 2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
October 2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Data Obtained From Publicly Available Quarterly Reports from 2013 to 2022 - Willow Run Creek Landfill Site
ND = Non-Detect at the associated reporting limit.

Table 2
2023 Groundwater Sample Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location		EGLE Generic Groundwater Cleanup Criteria ⁽¹⁾			EGLE ⁽²⁾	GS-7	GS-20D	GS-20S	GS-21D	GS-21S
Sample Identification		Residential	Non-Residential	Groundwater	Nonresidential	GW-11223983-071423-DR-031	GW-11223983-071123-DR-009	GW-11223983-071123-DR-003	GW-11223983-071123-DR-010	GW-11223983-071223-DR-013
Sample Date		Drinking Water	Drinking Water	Surface Water	Groundwater	07/14/2023	07/11/2023	07/11/2023	07/11/2023	07/12/2023
Sample Type				Interface	Not In Contact					
Screen Interval		a	b	c	i	(3-8) ft BGS	-	-	-	-
Volatile Organic Compounds (VOCs)		Units								
1,1,1-Trichloroethane		µg/L	200	200	89	19000 (EE)st	1.0 U	1.0 U	50 U	1.0 U
1,1,2,2-Tetrachloroethane		µg/L	8.5	35	78	170 ca	1.0 U	1.0 U	50 U	1.0 U
1,1,2-Trichloroethane		µg/L	5	5	330	20 nc	1.0 U	1.0 U	50 U	1.0 U
1,1-Dichloroethane		µg/L	880	2500	740	300 ca	1.0 U	1.0 U	50 U	1.0 U
1,1-Dichloroethene		µg/L	7	7	130	480 nc	1.0 U	1.0 U	50 U	1.0 U
1,2,4-Trichlorobenzene		µg/L	70	70	99	160 nc	1.0 U	1.0 U	50 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)		µg/L	0.2	0.2		0.021 (M)(CC)ca	2.0 U	2.0 U	100 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)		µg/L	0.05	0.05	5.7	8.9 ca	1.0 U	1.0 U	50 U	1.0 U
1,2-Dichlorobenzene		µg/L	600	600	13	16000 nc	1.0 U	1.0 U	50 U	1.0 U
1,2-Dichloroethane		µg/L	5	5	360	97 ca	1.0 U	1.0 U	50 U	1.0 U
1,2-Dichloropropane		µg/L	5	5	230	110 nc	1.0 U	1.0 U	50 U	1.0 U
1,3-Dichlorobenzene		µg/L	6.6	19	28	110 nc	1.0 U	1.0 U	50 U	1.0 U
1,4-Dichlorobenzene		µg/L	75	75	17	400 ca	1.0 U	1.0 U	50 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)		µg/L	13000	38000	2200	4300000 (DD)dev	10 U	10 U	500 U	10 U
2-Hexanone		µg/L	1000	2900	ID	29000 nc	10 U	10 U	500 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)		µg/L	1800	5200	ID	330000 st	10 U	10 U	500 U	10 U
Acetone		µg/L	730	2100	1700	40000000 (EE)st	10 U	10 U	500 U	10 U
Benzene		µg/L	5	5	200	66 ca	1.0 U	1.0 U	50 U	1.0 U
Bromodichloromethane		µg/L	80	80	ID	73 nc	1.0 U	1.0 U	50 U	1.0 U
Bromoform		µg/L	80	80	ID	6200 ca	1.0 U	1.0 U	50 U	1.0 U
Bromomethane (Methyl bromide)		µg/L	10	29	5	80 nc	1.0 U	1.0 U	50 U	0.54 J
Carbon disulfide		µg/L	800	2300	ID	3100 nc	1.0 U	1.0 U	50 U	1.0 U
Carbon tetrachloride		µg/L	5	5	38	18 ca	1.0 U	1.0 U	50 U	1.0 U
Chlorobenzene		µg/L	100	100	25	1400 nc	1.0 U	1.0 U	50 U	1.0 U
Chloroethane		µg/L	430	1700	1100	22000 nc	1.0 U	1.0 U	50 U	1.0 U
Chloroform (Trichloromethane)		µg/L	80	80	350	32 ca	1.0 U	1.0 U	50 U	1.0 U
Chloromethane (Methyl chloride)		µg/L	260	1100	ID	560 nc	1.0 U	1.0 U	50 U	1.0 U
cis-1,2-Dichloroethene		µg/L	70	70	620	140 nc	1.0 U	1.4	1600 ^{abci}	9.6
cis-1,3-Dichloropropene		µg/L					1.0 U	1.0 U	50 U	1.0 U
Cyclohexane		µg/L				8100 (GW)nc	1.0 U	1.0 U	50 U	1.0 U
Dibromochloromethane		µg/L	80	80	ID	130 ca	1.0 U	1.0 U	50 U	1.0 U
Dichlorodifluoromethane (CFC-12)		µg/L	1700	4800	ID	410 (GW)nc	1.0 U	1.0 U	50 U	1.0 U
Ethylbenzene		µg/L	74	74	18	170 ca	1.0 U	1.0 U	50 U	1.0 U
Isopropyl benzene		µg/L	800	2300	28	36 ca	1.0 U	1.0 U	50 U	1.0 U
Methyl acetate		µg/L					10 U	10 U	500 U	10 U
Methyl cyclohexane		µg/L					1.0 U	1.0 U	50 U	1.0 U
Methyl tert butyl ether (MTBE)		µg/L	40	40	7100	17000 ca	1.0 U	1.0 U	50 U	1.0 U
Methylene chloride		µg/L	5	5	1500	12000 nc	5.0 U	5.0 U	250 U	5.0 U
Styrene		µg/L	100	100	80	2300 ca	1.0 U	1.0 U	50 U	1.0 U
Tetrachloroethene		µg/L	5	5	60	130 (EE)st	1.0 U	1.0 U	50 U	1.0 U
Toluene		µg/L	790	790	270	59000 (EE)st	1.0 U	1.0 U	50 U	1.0 U
trans-1,2-Dichloroethene		µg/L	100	100	1500	580 nc	1.0 U	1.0 U	100	0.87 J
trans-1,3-Dichloropropene		µg/L					1.0 U	1.0 U	50 U	1.0 U
Trichloroethene		µg/L	5	5	200	10 (DD)dev	1.0 U	1.0 U	50 U	0.59 J
Trichlorofluoromethane (CFC-11)		µg/L	2600	7300		560 (GW)nc	1.0 U	1.0 U	50 U	1.0 U
Trifluorotrichloroethane (CFC-113)		µg/L	170000	170000	32	26000 (GW)nc	1.0 U	1.0 U	50 U	1.0 U
Vinyl chloride		µg/L	2	2	13	18 ca	1.0 U	3.0 ^{ab}	2100 ^{abci}	1.4
Xylenes (total)		µg/L	280	280	49	3000 (J)nc	2.0 U	2.0 U	100 U	2.0 U
Field Parameters										
Conductivity, field		mS/cm				3.47	1.58	1.24	2.48	--
Dissolved oxygen (DO), field		ug/L				1350	560	410	620	--
Oxidation reduction potential (ORP), field		millivolts				257	-70	52	--	--
pH, field		s.u.	6.5 - 8.5	6.5 - 8.5		7.14	7.09	6.76	6.7	--
Temperature, sample		Deg C				15.1	17.12	17.22	20.99	--
Turbidity, field		NTU				2.51	36	4.68	58	--

Table 2
2023 Groundwater Sample Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location		IW-6	IW-9	IW-10	IW-33	MW-1U-93	MW-4	MW-5	MW-6U-93	MW-13	MW-13
Sample Identification		GW-11223983-071223- DR-017	GW-11223983-071223- DR-018	GW-11223983-071223- DR-021	GW-11223983-071223- DR-023	GW-11223983-071223- DR-014	GW-11223983-071123- DR-011	GW-11223983-071123- DR-006	GW-11223983-071723- DR-034	GW-11223983-071423- DR-028	GW-11223983-071423- DR-029
Sample Date		07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/11/2023	07/11/2023	07/17/2023	07/14/2023	07/14/2023
Sample Type											Duplicate
Screen Interval		(7-17) ft BGS	(11-16) ft BGS	(7-17) ft BGS	(13-18) ft BGS	-	(10-20) ft BGS	(10-20) ft BGS	-	(8-18) ft BGS	(8-18) ft BGS
Volatile Organic Compounds (VOCs)	Units										
1,1,1-Trichloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	11	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.5	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	7.0	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	2.0 U	4.0 U	50 U	2000 U	2.0 U	2.0 U	40 U	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10000 U	20 U	250 U	10000 U	10 U	10 U	200 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	20 U	250 U	10000 U	10 U	10 U	200 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	20 U	250 U	10000 U	10 U	10 U	200 U	10 U	10 U	10 U
Acetone	µg/L	10 U	20 U	250 U	10000 U	10 U	10 U	200 U	10 U	10 U	10 U
Benzene	µg/L	34 ^{ab}	5.7 ^{ab}	200 ^{ab1}	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.1	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	25000 ^{abci}	2.1	160 ^{ab1}	1000 U	0.62 J	1.0 U	460 ^{ab1}	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	2.2	13	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	11	17	86 ^{abc}	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	4.4	20 J	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	20 U	250 U	10000 U	10 U	10 U	200 U	10 U	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.9 J	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	10 U	130 U	5000 U	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1000 U	14	18 J	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	24	2.0 U	17 J	1000 U	1.0 U	1.0 U	14 J	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	µg/L	1.0 U	2.0 U	25 U	1000 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	150000 ^{abci}	43 ^{abci}	1400 ^{abci}	20000 ^{abci}	1.0 U	1.0 U	1100 ^{abci}	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	55 ^c	71 ^c	170 ^c	2000 U	2.0 U	2.0 U	40 U	2.0 U	2.0 U	2.0 U
Field Parameters											
Conductivity, field	mS/cm	1.17	0.63	1.04	1.24	1.78	11.6	0.632	1.64	0.621	0.621
Dissolved oxygen (DO), field	ug/L	380	350	3890	360	680	220	260	400	350	350
Oxidation reduction potential (ORP), field	millivolts	-63	-311.9	-79	-83	-91	-2	-132	283.3	-140	-140
pH, field	s.u.	0.38 ^{ab}	7.19	6.62	6.71	6.51	7.06	6.93	6.65	6.94	6.94
Temperature, sample	Deg C	20.44	16.5	22.13	20.7	21.12	26.83	25.05	15	17.26	17.26
Turbidity, field	NTU	4.23	2.07	3.97	3.96	9.36	3.76	2.53	26.3	5	5

Table 2
2023 Groundwater Sample Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location		MW-14	MW-14	MW-18	MW-19-01	MW-19-02	MW-19-03	MW-19-04	MW-19-07	MW-19-11	MW-19-11
Sample Identification		GW-11223983-071823- DR-035	GW-11223983-071823- DR-036	GW-11223983-071223- DR-015	GW-11223983-071123- DR-007	GW-11223983-071123- DR-004	GW-11223983-071123- DR-012	GW-11223983-071723- DR-033	GW-11223983-071223- DR-025	GW-11223983-071223- DR-019	GW-11223983-071223- DR-020
Sample Date		07/18/2023	07/18/2023	07/12/2023	07/11/2023	07/11/2023	07/11/2023	07/17/2023	07/12/2023	07/12/2023	07/12/2023
Sample Type			Duplicate								Duplicate
Screen Interval		(8-18) ft BGS	(8-18) ft BGS	-	(8-18) ft BGS	(9-19) ft BGS	(7-17) ft BGS	(6-16) ft BGS	(7-17) ft BGS	(7-17) ft BGS	(7-17) ft BGS
Volatile Organic Compounds (VOCs)											
	Units										
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	200 U	2.0 U	2.0 U	100 U	2000 U	2000 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	500 U	10000 U	10000 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	500 U	10000 U	10000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	500 U	10000 U	10000 U
Acetone	µg/L	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	500 U	10000 U	10000 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	0.91 J	1400 ^{abci}	52	1.0 U	110 ^{ab}	40000 ^{abci}	27000 ^{abci}
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Methyl acetate	µg/L	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	500 U	10000 U	10000 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	500 U	5.0 U	5.0 U	250 U	5000 U	5000 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	4.0	1.0 U	50 U	1000 U	1000 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Trifluorotrichloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	50 U	1000 U	1000 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2100 ^{abci}	51 ^{abci}	1.0 U	1200 ^{abci}	26000 ^{abci}	18000 ^{abci}
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	200 U	2.0 U	2.0 U	100 U	2000 U	2000 U
Field Parameters											
Conductivity, field	mS/cm	0.596	0.596	2.47	0.68	0.63	0.74	0.76	0.563	0.69	0.69
Dissolved oxygen (DO), field	ug/L	4240	4240	190	610	370	630	10	2860	290	290
Oxidation reduction potential (ORP), field	millivolts	259.4	259.4	-218	-86.4	-136.7	-109.4	-269.7	-20	-324.5	-324.5
pH, field	s.u.	7.01	7.01	7.29	7.8	7.32	7.32	6.88	6.99	7.29	7.29
Temperature, sample	Deg C	16.2	16.2	21.37	18.9	15.3	17.1	12.3	19.73	17.8	17.8
Turbidity, field	NTU	2.98	2.98	5.6	1.82	3.23	2.05	1.2	1.53	1.29	1.29

Table 2
2023 Groundwater Sample Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location		MW-19-24	MW-19-33	MW-19-38	MW-19-41	MW-19-42	MW-19-45	MW-19-53	MW-19-54	MW-19-56	MW-19-56	MWOS-05
Sample Identification		GW-11223983-071123- DR-008	GW-11223983-071223- DR-016	GW-11223983-071423- DR-030	GW-11223983-071123- DR-005	GW-11223983-071423- DR-027	GW-11223983-071223- DR-022	GW-11223983-071223- DR-024	GW-11223983-071223- DR-026	GW-11223983-071123- DR-001	GW-11223983-071123- DR-002	GW-11223983-071423- DR-032
Sample Date		07/11/2023	07/12/2023	07/14/2023	07/11/2023	07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/11/2023	07/11/2023	07/14/2023
Sample Type											Duplicate	
Screen Interval		(8-18) ft BGS	(8-18) ft BGS	(6-16) ft BGS	(7.5-17.5) ft BGS	(9.07-19.07) ft BGS	(9-19) ft BGS	(6.5-16.5) ft BGS	(6.5-16.5) ft BGS	(6-16) ft BGS	(6-16) ft BGS	(5-15) ft BGS
Volatile Organic Compounds (VOCs)												
Units												
1,1,1-Trichloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,1-Dichloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,1-Dichloroethene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	10 U	2.0 U	2.0 U	2.0 U	1000 U	2.0 U	400 U	200 U	20 U	20 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,2-Dichlorobenzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,2-Dichloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,2-Dichloropropane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,3-Dichlorobenzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
1,4-Dichlorobenzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50 U	10 U	10 U	10 U	5000 U	10 U	250 J	130 J	100 U	100 U	10 U
2-Hexanone	µg/L	50 U	10 U	10 U	10 U	5000 U	10 U	2000 U	1000 U	100 U	100 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	50 U	10 U	10 U	10 U	5000 U	10 U	2000 U	1000 U	100 U	100 U	10 U
Acetone	µg/L	50 U	10 U	10 U	10 U	5000 U	10 U	2000 U	1000 U	100 U	100 U	10 U
Benzene	µg/L	4.0 J	3.8	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Bromodichloromethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Bromoform	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Carbon disulfide	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Carbon tetrachloride	µg/L	5.0 U	1.0 U	0.76 J	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Chlorobenzene	µg/L	5.0 U	7.0	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Chloroethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
cis-1,2-Dichloroethene	µg/L	9.9	1.0 U	4.2	1.7	5000 ^{abci}	1.0 U	170 J ^{abi}	220 ^{abi}	330 ^{abi}	300 ^{abi}	1.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Cyclohexane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Dibromochloromethane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Ethylbenzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Isopropyl benzene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Methyl acetate	µg/L	50 U	10 U	10 U	10 U	5000 U	10 U	2000 U	1000 U	100 U	100 U	10 U
Methyl cyclohexane	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Methylene chloride	µg/L	25 U	5.0 U	5.0 U	5.0 U	2500 U	5.0 U	1000 U	500 U	50 U	50 U	5.0 U
Styrene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Tetrachloroethene	µg/L	5.0 U	1.0 U	1.3	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Toluene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	410 J ^{ab}	1.0 U	200 U	100 U	13	11	1.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Trichloroethene	µg/L	5.0 U	1.0 U	11 ^{abi}	51 ^{abi}	500 U	2.6	200 U	100 U	8.0 J ^{ab}	5.1 J ^{ab}	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Trifluorotrichloroethane (CFC-113)	µg/L	5.0 U	1.0 U	1.0 U	1.0 U	500 U	1.0 U	200 U	100 U	10 U	10 U	1.0 U
Vinyl chloride	µg/L	290 ^{abci}	5.8 ^{ab}	1.0 U	3.3 ^{ab}	21000 ^{abci}	1.0 U	3800 ^{abci}	3200 ^{abci}	140 ^{abci}	140 ^{abci}	1.0 U
Xylenes (total)	µg/L	10 U	2.0 U	2.0 U	2.0 U	440 J ^{abc}	2.0 U	400 U	200 U	20 U	20 U	2.0 U
Field Parameters												
Conductivity, field	mS/cm	0.63	7.02	0.6	0.621	1.35	0.66	0.68	1.05	0.66	0.66	1.17
Dissolved oxygen (DO), field	ug/L	1530	200	2160	330	500	2620	2140	150	940	940	30
Oxidation reduction potential (ORP), field	millivolts	-53	-114	260.1	-31	-98	-282.4	-269.5	-108	-64.9	-64.9	273.5
pH, field	s.u.	6.91	6.87	7.08	6.98	6.61	7.26	7.08	6.77	6.98	6.98	6.86
Temperature, sample	Deg C	23.63	21.29	17.8	22.43	19.26	16.2	18.2	24.6	18.3	18.3	16.2
Turbidity, field	NTU	1.38	4.5	1.58	0.94	4	3.07	1.73	5.2	1.43	1.43	6.56

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended
(2) EGLE - Volatilization to Indoor Air (VIAP) Screening Levels (SL) September 2020
ID - means insufficient data to develop criterion.

3.0^{ab} - boxed cell denotes exceedance of cleanup criteria screening level identified by superscript.

(ca) = Carcinogenic; (nc) = Non-Carcinogenic; (dev) = Developmental
(mut) = Mutagenic cancer; (st) = Short-term (i.e., less than chronic exposure).
CC: Insufficient chemical-physical input parameters have been identified to allow the development of a VIAP screening level using standard equations. The VIAP screening level 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.
DD: Hazardous substance causes developmental effects. Residential VIAP screening levels are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential VIAP screening levels 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.
EE: The acceptable air concentration (AAC) for the volatile hazardous substances is not derived using standard equations. 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 an acute initial threshold screening level (ITSL) by the EGLE's Air Quality Division.
GW: The calculated VIAP screening level for a hazardous substance based upon shallow groundwater is considered protective when it is greater than the calculated value for groundwater.
M: The VIAP screening level 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 VIAP screening level, the TDL is used to evaluate the risk posed from the pathway.

Table 3
2023-2024 Seep Sample Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location		EGLE Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)							SEEP-1	SEEP-1	SEEP-1	SEEP-1	SEEP-2	SEEP-2	SEEP-2	SEEP-2	SEEP-5	SEEP-5	SEEP-5	SEEP-5
Sample Identification				Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels	W-11223983-042723-DR-002	W-11223983-071223-DR-003	W-11223983-101323-DR-003	W-11223983-012324-DR-001	W-11223983-042723-DR-001	W-11223983-071223-DR-002	W-11223983-101323-DR-002	W-11223983-012324-DR-002	W-11223983-042723-DR-003	W-11223983-071223-DR-001	W-11223983-101323-DR-001	W-11223983-012324-DR-003	
Sample Date		Residential Drinking Water a	Non-Residential Drinking Water b	Groundwater Surface Water Interface c				4/27/2023	7/12/2023	10/13/2023	1/23/2024	4/27/2023	7/12/2023	10/13/2023	1/23/2024	4/27/2023	7/12/2023	10/13/2023	1/23/2024	
Volatile Organic Compounds (VOCs)		Units																		
1,1,1-Trichloroethane		ug/L	200	200	89	660000	1300000	1330000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,1,2,2-Tetrachloroethane		ug/L	8.5	35	78	12000	77000	2970000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,1,2-Trichloroethane		ug/L	5	5	330	17000	110000	4420000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,1-Dichloroethane		ug/L	880	2500	740	1000000	2300000	5060000	380000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,1-Dichloroethene		ug/L	7	7	130	200	1300	2250000	97000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	0.69 J	2.0 U	
1,2,4-Trichlorobenzene		ug/L	70	70	99	300000	300000	300000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,2-Dibromo-3-chloropropane (DBCP)		ug/L	0.2	0.2	220	1200	1230	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	4.0 U	
1,2-Dibromoethane (Ethylene dibromide)		ug/L	0.05	0.05	5.7	2400	15000	4200000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,2-Dichlorobenzene		ug/L	600	600	13	160000	160000	156000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,2-Dichloroethane		ug/L	5	5	360	9600	59000	8520000	2500000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,2-Dichloropropane		ug/L	5	5	230	16000	36000	2800000	550000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,3-Dichlorobenzene		ug/L	6.6	19	28	18000	41000	111000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
1,4-Dichlorobenzene		ug/L	75	75	17	16000	74000	73800	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
2-Butanone (Methyl ethyl ketone) (MEK)		ug/L	13000	38000	2200	240000000	240000000	240000000	ID	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	
2-Hexanone		ug/L	1000	2900	ID	4200000	8700000	16000000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)		ug/L	1800	5200	ID	20000000	20000000	20000000	ID	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	
Acetone		ug/L	730	2100	1700	1000000000	1000000000	1000000000	15000000	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	16 J	
Benzene		ug/L	5	5	200	5600	35000	1750000	68000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Bromodichloromethane		ug/L	80	80	ID	4800	37000	6740000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Bromoform		ug/L	80	80	ID	470000	3100000	3100000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Bromomethane (Methyl bromide)		ug/L	10	29	5	4000	9000	14500000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Carbon disulfide		ug/L	800	2300	ID	250000	550000	1190000	13000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Carbon tetrachloride		ug/L	5	5	38	370	2400	793000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Chlorobenzene		ug/L	100	100	25	210000	470000	472000	160000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Chloroethane		ug/L	430	1700	1100	5700000	5700000	5740000	110000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Chloroform (Trichloromethane)		ug/L	80	80	350	28000	180000	7920000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Chloromethane (Methyl chloride)		ug/L	260	1100	ID	8600	45000	6340000	36000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
cis-1,2-Dichloroethene		ug/L	70	70	620	93000	210000	3500000	530000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	81 ^{ab}	20	130 ^{ab}	110 ^{ab}	
cis-1,3-Dichloropropene		ug/L								1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Cyclohexane		ug/L								1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Dibromochloromethane		ug/L	80	80	ID	14000	110000	2600000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Dichlorodifluoromethane (CFC-12)		ug/L	1700	4800	ID	220000	300000	300000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Ethylbenzene		ug/L	74	74	18	110000	170000	169000	43000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Isopropyl benzene		ug/L	800	2300	28	56000	56000	56000	29000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Methyl acetate		ug/L								10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	
Methyl cyclohexane		ug/L								1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Methyl tert butyl ether (MTBE)		ug/L	40	40	7100	47000000	47000000	46800000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Methylene chloride		ug/L	5	5	1500	220000	1400000	17000000	ID	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	10 U	
Styrene		ug/L	100	100	80	170000	310000	310000	140000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Tetrachloroethene		ug/L	5	5	60	25000	170000	200000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Toluene		ug/L	790	790	270	530000	530000	526000	61000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
trans-1,2-Dichloroethene		ug/L	100	100	1500	85000	200000	6300000	230000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.6	1.6 J	
trans-1,3-Dichloropropene		ug/L								1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Trichloroethene		ug/L	5	5	200	2200	4900	1100000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	160 ^{ab}	20 ^{ab}	30 ^{ab}	120 ^{ab}	
Trichlorofluoromethane (CFC-11)		ug/L	2600	7300		1100000	1100000	1100000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Trifluorotrichloroethane (CFC-113)		ug/L	170000	170000	32	170000	170000	170000	ID	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	
Vinyl chloride		ug/L	2	2	13	1100	13000	2760000	33000	1.0 U	1.0 U	1.0 U	1.0 U			2.0 U	0.69 J	7.1 ^{ab}	2.0 U	
Xylenes (total)		ug/L	280	280	49	190000	190000	186000	70000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	4.0 U	

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 4
2023 Utility Corridor Soil Gas Results
Willow Run CVO
Ypsilanti, Michigan

Sample Location Sample Identification Sample Date Sample Type		EGLE (1)		GP-OS-01
		Residential Soil Vapor a	12-hour Nonresidential Soil Vapor b	SG-11223983-121123-LK-001 12/11/2023
Volatile Organic Compounds (VOCs)	Units			
1,1,1-Trichloroethane	ug/m ³	170000 (EE)st	230000 (EE)st	2.16
1,1,2,2-Tetrachloroethane	ug/m ³	15 ca	69 ca	1.37 U
1,1,2-Trichloroethane	ug/m ³	7.0 nc	20 nc	1.09 U
1,1-Dichloroethane	ug/m ³	530 ca	2500 ca	0.802 U
1,1-Dichloroethene	ug/m ³	7000 nc	20000 nc	0.793 U
1,2,4-Trichlorobenzene	ug/m ³	70 nc	200 nc	4.66 U
1,2,4-Trimethylbenzene	ug/m ³	2100 (JT)nc	6100 (JT)nc	1.10
1,2-Dibromoethane (Ethylene dibromide)	ug/m ³	1.4 ca	6.6 ca	1.54 U
1,2-Dichlorobenzene	ug/m ³	10000 nc	31000 nc	1.20 U
1,2-Dichloroethane	ug/m ³	33 ca	150 ca	0.810 U
1,2-Dichloropropane	ug/m ³	140 nc	410 nc	0.924 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ug/m ³			7.41
1,3,5-Trimethylbenzene	ug/m ³	2100 (JT)nc	6100 (JT)nc	0.982 U
1,3-Butadiene	ug/m ³			4.43 U
1,3-Dichlorobenzene	ug/m ³	100 nc	310 nc	1.20 U
1,4-Dichlorobenzene	ug/m ³	220 ca	1000 ca	1.20 U
1,4-Dioxane	ug/m ³	170 ca	800 ca	2.27 U
2,2,4-Trimethylpentane	ug/m ³	120000 nc	360000 nc	0.934 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/m ³	170000 (DD)dev	330000 (DD)dev	3.69 U
2-Chlorotoluene	ug/m ³	2800 nc	8200 nc	1.03 U
2-Hexanone	ug/m ³	1000 nc	3100 nc	5.11 U
4-Ethyl toluene	ug/m ³			0.982 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/m ³	27000 st	27000 (EE)st	5.12 U
Acetone	ug/m ³	1000000 (EE)st	1000000 (EE)st	9.20
Allyl chloride	ug/m ³			0.626 U
Benzene	ug/m ³	110 ca	510 ca	0.639 U
Benzyl chloride	ug/m ³	17 ca	80 ca	1.04 U
Bromodichloromethane	ug/m ³	48 ca	200 nc	1.34 U
Bromoform	ug/m ³	770 ca	3600 ca	6.21 U
Bromomethane (Methyl bromide)	ug/m ³	350 nc	1000 nc	0.776 U
Carbon disulfide	ug/m ³	24000 nc	72000 nc	1.76
Carbon tetrachloride	ug/m ³	150 ca	710 ca	1.26 U
Chlorobenzene	ug/m ³	1700 nc	5100 nc	0.924 U
Chloroethane	ug/m ³	140000 nc	410000 nc	0.528 U
Chloroform (Trichloromethane)	ug/m ³	37 ca	170 ca	0.973 U
Chloromethane (Methyl chloride)	ug/m ³	3100 nc	9200 nc	0.413 U
cis-1,2-Dichloroethene	ug/m ³	280 nc	820 nc	0.793 U
cis-1,3-Dichloropropene	ug/m ³			0.908 U
Cyclohexane	ug/m ³	210000 nc	610000 nc	0.689 U
Dibromochloromethane	ug/m ³	14 (MM)mut	170 ca	1.70 U
Dichlorodifluoromethane (CFC-12)	ug/m ³	11000 nc	34000 nc	1.48
Ethanol	ug/m ³	630000 (EE)st	630000 (EE)st	4.86
Ethylbenzene	ug/m ³	340 ca	1600 ca	0.867 U
Hexachlorobutadiene	ug/m ³	39 ca	180 ca	6.73 U
Hexane	ug/m ³	24000 nc	72000 nc	2.22 U
Isopropyl alcohol	ug/m ³	7000 nc	20000 nc	8.95
Isopropyl benzene	ug/m ³	81 ca	380 ca	0.983 U
m&p-Xylenes	ug/m ³			1.95
Methyl methacrylate	ug/m ³			0.819 U
Methyl tert butyl ether (MTBE)	ug/m ³	3300 ca	15000 ca	0.721 U
Methylene chloride	ug/m ³	21000 nc	61000 nc	0.694 U
Naphthalene	ug/m ³	25 ca	120 ca	3.30 U
N-Heptane	ug/m ³	120000 nc	360000 nc	0.818 U
o-Xylene	ug/m ³			0.867 U
Propylene (propene)	ug/m ³			2.15 U
Styrene	ug/m ³	1500 ca	7000 ca	0.851 U
Tetrachloroethene	ug/m ³	1400 (EE)st	2700 (EE)st	9.17
Tetrahydrofuran	ug/m ³	70000 nc	200000 nc	0.590 U
Toluene	ug/m ³	170000 nc	250000 (EE)st	1.88 U
trans-1,2-Dichloroethene	ug/m ³	2800 nc	8200 nc	0.793 U
trans-1,3-Dichloropropene	ug/m ³			0.908 U
Trichloroethene	ug/m ³	67 (DD)dev	130 (DD)dev	1.07 U
Trichlorofluoromethane (CFC-11)	ug/m ³	15000 nc	45000 nc	1.52
Trifluorotrchloroethane (CFC-113)	ug/m ³	660000 nc	1900000 nc	1.53 U
Vinyl acetate	ug/m ³	7000 nc	20000 nc	2.22 U
Vinyl bromide (Bromoethene)	ug/m ³			0.875 U
Vinyl chloride	ug/m ³	54 (MM)mut	910 ca	0.511 U
Xylenes (total)	ug/m ³	7600 (J)nc	22000 (J)nc	2.78

Notes:

(1) EGLE- Michigan Department of Environment, Great Lakes and Energy (EGLE) Volatilization to Indoor Air (VIAP) Screening Levels (SL), February 2024
 U - Not detected at the associated reporting limit.

Appendices

Appendix A

MDEQ GNIAA Determination



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
JACKSON DISTRICT OFFICE



STEVEN E. CHESTER
DIRECTOR

September 1, 2004

Mr. Ken Richards
General Motors Worldwide Facilities Group
1996 Technology Drive
Troy Technology Park South Building A
482-356-319
Troy, Michigan 48083

Dear Mr. Richards:

SUBJECT: Groundwater Not in an Aquifer Evaluation
PAOC 18 Response Activities
Company Vehicle Operations Area, Former Willow Run Assembly Plant,
Washtenaw County

Attached please find a memorandum from our senior geologist, Mr. Leonard Lipinski, regarding your request for a determination of groundwater not in an aquifer at the Former Willow Run Assembly Plant in Washtenaw County. As Mr. Lipinski notes, we concur with your assessment that the shallow water bearing unit at the site would not be considered groundwater in an aquifer. However, as he also notes, the groundwater/surface water interface pathway does appear to be complete, and those criteria should be considered in any future remedial action plan.

In addition, I have had opportunity to review the work plan for *PAOC 18 Response Activities* dated August 23, 2004. The plan seems appropriate and I look forward to the results. Part 207, Environmental Remediation, of the Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended (Part 201), requires prompt action when free product is discovered at a site, and I am glad to see General Motors being very proactive to undertake these activities at this property.

I appreciate the opportunity to review this information. If you have any questions regarding these comments, please feel free to contact me at 517-780-7932.

Sincerely,

Peter T. Masson
Environmental Quality Analyst
Remediation and Redevelopment Division

Attachment

cc: Mr. R. Dowe Parsons, DEQ
Mr. Leonard Lipinski, DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

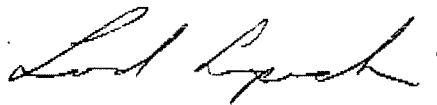
August 30, 2004

TO: Peter Masson, Project Manager
Remediation and Redevelopment Division
Jackson District

FROM: Leonard Lipinski, Senior Geologist
Remediation and Redevelopment Division
Jackson District

SUBJECT: General Motors Company Vehicle Operations (CVO) Facility
Determination of Groundwater not in an Aquifer

I have reviewed the July 9, 2004 submittal from General Motors requesting a determination that the groundwater in the upper sand unit at the CVO is not in an aquifer as defined in Part 201. Based on the information they submitted and my understanding of the geology, I agree that the groundwater in the upper sand unit is not in an aquifer. However, I think that any groundwater contamination in the upper sand unit has the potential to impact surface water and would be regulated according to the groundwater surface water interface criteria.



Appendix B

Environmental Restrictive Covenant

CERTIFIED TRUE
COPY

DECLARATION OF RESTRICTIVE COVENANT

Facility MID Number: MID005356795 (RCRA Corrective Action)
MIK468293311 (Remediation Waste Generator Status)

This Declaration of Restrictive Covenant is made to protect public health, safety, welfare and the environment pursuant to the provisions of Part 111, Hazardous Waste Management, Michigan Compiled Laws ("MCL") 324.11101, *et seq.* ("Part 111") and the applicable Sections of Part 201, Environmental Remediation, MCL 324.20101, *et seq.* (Part 201) of the Natural Resources and Environmental Protection Act ("NREPA"), 1994 PA 451, as amended, MCL 324.101, *et seq.* and the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6928(h), the Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9601, *et seq.* and any applicable rules or regulations ("Environmental Laws").

This Declaration of Restrictive Covenant ("Restrictive Covenant") is made on this 17th day of June, 2014 by RACER Properties LLC, ("Grantor") (an entity wholly-owned by the Revitalizing Auto Communities Environmental Response Trust ("Trust"), the current fee title holder of the property, whose address is 500 Woodward Avenue, Suite 1510, Detroit, Michigan, 48226, for the benefit of the Grantee, State of Michigan, Department of Environment Quality ("MDEQ"), whose address is 525 West Allegan Street, P.O. Box 30473, Lansing, Michigan 48909-7926.

This Restrictive Covenant has been made to prohibit or restrict activities that could result in unacceptable exposure to environmental contamination present at the property at 2901 Tyler Road, Ypsilanti, in the Township of Ypsilanti, County of Washtenaw, Michigan and legally described in **Exhibit 1** and depicted in **Exhibit 2** ("Property").

On March 31, 2011 the Trust was established and assumed the rights, title, and interest of Motors Liquidation Company in and to the Property pursuant to an Environmental Response Trust Consent Decree and Settlement Agreement ("Settlement Agreement") entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of *In re Motors Liquidation Company*, etc. et al, Debtors, Case No. 09-50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust). Title to the Property is held by RACER Properties LLC an entity wholly owned by the Trust (RACER Properties and the Trust are collectively referred to herein as "RACER"). RACER has worked in cooperation with MDEQ to complete a RCRA

Facility Investigation ("RFI") of potential releases of hazardous wastes and/or hazardous constituents at or from the Property (USEPA Identification Number MID005356795).

Based on the RFI, the Property contains hazardous substances in excess of the concentrations developed as the unrestricted residential criteria under Section 20120a (1)(a) or (17) of NREPA, 1992 PA451, as amended. MDEQ and USEPA recommend that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of section 20107a of NREPA.

Recording of this Restrictive Covenant is designed to restrict exposures to impacted groundwater, soil and soil gas on the Property, and require any future work, or other activities on the Property by or for the Owner, to be conducted in conformance with: i) applicable MDEQ soil relocation requirements including but not limited to MCL 324.20120c and any related administrative rules and MDEQ guidance; and ii) applicable due care obligations under MCL 324.20107a and associated administrative rules and MDEQ guidance, as well as the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), 29 C.F.R. 1910.

The land or resource use restrictions contained in this Restrictive Covenant are based upon information available at the time this document was recorded. Failure of the corrective measures to achieve and maintain the cleanup criteria, future changes in the environmental condition of the Property, changes in the cleanup criteria developed under Part 201, the discovery of environmental conditions at the Property that were not known at the time this document was recorded, or use of the Property in a manner inconsistent with the restrictions described herein, may result in this Restrictive Covenant not being protective of public health, safety, and welfare, and the environment. Additional restrictions may become necessary.

Definitions

"Agency" means any State or any other governmental agency or authority, in each case having jurisdiction over the Property, including without limitation, the United States Environmental Protection Agency ("USEPA") and the Michigan Department of Environmental Quality ("MDEQ").

"Grantor" shall mean the Revitalizing Auto Communities Environmental Response Trust ("Trust") and RACER Properties LLC, an entity wholly-owned by the Trust, the title holder of the Property at the time this Restrictive Covenant was executed or any future title holder of the Property or some relevant sub-portion of the Property;

"MDEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"NREPA" shall mean the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101 *et seq.*;

"Owner" means at any given time the then current fee title holder(s) and the holder(s) of a life estate of the Property or any portion thereof, including the fee title holder's lessees and those persons or entities authorized to act on its behalf.

"Part 201" shall mean Part 201, Environmental Remediation, of the NREPA.

"Property" shall mean the property legally described in **Exhibit 1** and depicted in **Exhibit 2**.

"USEPA" means the United States Environmental Protection Agency, its successor entities, and those persons or entities acting on its behalf.

All other terms used in this document which are defined in Part 3 Definitions, Parts 111 and 201 of NREPA, or Part 111 and Part 201 of Michigan Administrative Rules, shall have the same meaning in this document as in those statutes and rules as on the date this Restrictive Covenant is made.

Summary of Environmental Conditions and Response Activities

Chemicals listed in **Exhibit 3** have been found in soils, soil gas and groundwater at the Property in concentrations above the unrestricted non-residential cleanup criteria for relevant exposure pathways.

The following response activities have been undertaken to minimize the migration of contaminants:

1. Removal of underground storage tanks and impacted soils west of the Haulaway Building.
2. Chemical Oxidation injections to treat groundwater in localized areas.
3. Test pits that removed buried debris.
4. Excavation of impacted soils east of Haulaway Building.
5. Excavation of impacted soils and DNAPL at Potential Area of Concern (PAOC 18).
6. Excavation of impacted soils and waste material beneath the northwest portion of the Haulaway Building.
7. Installation of a sub-slab depressurization system (SSDS) beneath a portion of the Haulaway Building.

Despite the response activities identified above, contaminants remain present in soils, soil gas and groundwater at levels that require controls to prevent unacceptable exposures. If necessary, additional investigations and corrective actions will be completed by RACER. In the meantime, public health will be protected by compliance with the Land Use or Resource Use Restrictions set forth below. Restricting the use of the Property to uses consistent with those Restrictions will ensure that the use will be protective of the public health, safety, welfare and the environment.

NOW THEREFORE,

Declaration of Land Use or Resource Use Restrictions

The Grantor as current fee title holder of the Property, hereby declares and covenants that the Property shall be subject to those restrictions described below and intends that said restrictions and covenants shall run with the land, and may be enforced in perpetuity against the Owner by the following entities: (1) the Grantor or its successor in title, even if it is no longer Owner; and (2) MDEQ.

1. Land Use Prohibitions. The Owner shall prohibit all uses of the Property that are not compatible with nonresidential land use category under MCL 324.20120a(1)(b) and generally described in the Description of Allowable Uses, attached hereto as **Exhibit 4**.

Part 201 cleanup criteria for land use-based response activities are located in the Government Documents Section of the State of Michigan Library, MCL 324.20101 *et seq.* effective December 30, 2013, and Michigan Administrative Code (MAC) R 299.1 – R 299.50, effective December 30, 2013.

2. Activities Prohibited. The Owner shall prohibit activities on the Property that may result in exposures above the generic cleanup criteria for the nonresidential land use category. These prohibited activities include:

- a. No drinking water wells may be installed or used on the Property.
- b. No groundwater extraction wells may be installed or used on the Property except for wells and devices that are part of an MDEQ or USEPA-approved response activity and for short-term dewatering for construction purposes, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable environmental laws and does not cause or result in a new release, exacerbation of any pre-existing environmental condition, or any other violation of environmental laws.
- c. The Owner shall not "treat", "store", "dispose", or "release" any Hazardous Substances, on, at, or below the Property, in a manner that would require a permit under RCRA, or equivalent State Law, except pursuant to a plan or permit approved in writing by MDEQ or USEPA, and Grantor or its successor in title.
- d. The Owner shall not modify or discontinue operation of the existing SSDS. This includes penetrating the concrete surface within the SSDS area without sealing the penetration. The SSDS area is identified on Figure 1 in **Exhibit 5**.
- e. The Owner shall not significantly modify the building structure or HVAC system in any way that adversely impacts the operation of the SSDS unless the Owner takes necessary and appropriate action to adjust or modify the SSDS to avoid any adverse impacts.
- f. Owner shall not excavate within the restricted areas identified on Figure 2 in **Exhibit 5** without approval from the Grantor.
- g. Owner shall not remove any slabs, pavement or other impervious surface on the Property, unless such removal is approved in writing by Grantor, which approval may be conditioned on certain actions by Owner including replacement with an impervious cover. In the event Owner removes any slabs, pavement or other impervious surface on the Property Owner shall be responsible for any and all obligations under environmental laws arising from any such removal, alteration or disturbance, if any, whether or not caused by, arising from or related to, an environmental condition.

3. Contaminated Soil Management. The Owner shall manage contaminated soils, media and/or debris (if any) and all other soils located on the Property that Owner may excavate or otherwise disturb in accordance with the requirements of Part 111, Subtitle C of RCRA, the administrative rules promulgated pursuant to Part 111 and the RCRA, the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) 29 C.F.R. Part 1910, and all other relevant state and federal laws, including but not limited to Section 120c of NREPA, MCL 324.20120c. This includes any soil and/or debris that owner may excavate or disturb if the Owner elects to remove any slabs, pavement or other impervious surface on the Property.
4. Soil Vapor Management. The Owner shall not build or occupy any building on the Property without first completing one of the following: Option 1) Evaluate and determine, in accordance with applicable environmental laws rules or regulations that no unacceptable vapor intrusion risks to human health exist in any existing or newly constructed site buildings; or Option 2) Install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria. This prohibition does not apply to short-term occupancy of a building for purposes of construction, renovation, repair, or other short-term activities as long as adequate health and safety precautions are employed during these activities, and they are performed in compliance with Section 20107a of NREPA.

If Option 2 above is selected, the Owner shall install and thereafter maintain a vapor barrier and/or install and thereafter operate and maintain a vapor intrusion mitigation system in accordance with applicable standards and criteria at the time, for the purpose of mitigating the potential intrusion of soil vapor below any human-occupied building constructed on the property after the date of this Restrictive Covenant until it is determined that a vapor barrier or mitigation system is no longer necessary in accordance with Option 1, above.
5. Monitoring Wells. Owner shall not interfere with, damage, alter, obstruct access to or otherwise cause any adverse impacts to any monitoring wells, soil gas probes, or infiltration galleries on the Property as identified on Sheets 1 through 3 in **Exhibit 5**.
6. Access. The Owner shall grant to the MDEQ and Grantor the right to enter the Property at reasonable times for the purpose of determining and monitoring compliance with this Restrictive Covenant, including the right to take samples and, inspect any records relating compliance with this Restrictive Covenant, and to perform any actions necessary to maintain compliance with Part 111, Part 201, RCRA and applicable Federal laws and regulations. Nothing in this Restrictive Covenant shall limit or otherwise affect MDEQ's right of entry and access, as defined in the NREPA, and any successor statutory provisions, or under other state or federal laws.
7. Third Party Beneficiary: Grantor, on behalf of itself and its successors, and assigns, hereby agrees that the United States, acting by and through USEPA, its successors and assigns shall be a third party beneficiary ("Third Party Beneficiary") of all the benefits and rights set out in the restrictions, covenants, easements, exceptions, notifications, conditions and agreements herein, and that the Third Party Beneficiary shall have the right to enforce the restrictions described herein as if it was a party hereto. No other rights in third parties are intended by this Restrictive Covenant, and no other person or

entity shall have any rights or authorities hereunder to enforce these restrictions, terms, conditions or obligations beyond Grantor, MDEQ, their successors, assigns, and the Third Party Beneficiary.

8. Modification/ Release/Rescission: Grantor or Owner may request in writing to MDEQ, at the addresses provided in herein, modifications to, or release or rescission of, this Restrictive Covenant. This Restrictive Covenant may be modified, released or rescinded only with the written approval of MDEQ. Any approved modification to, or release or rescission of, this Restrictive Covenant shall be filed with the appropriate Registrar of Deeds by the Grantor or Owner and a certified copy shall be returned to MDEQ at the addresses provided herein.
9. Transfer of Interest: Grantor shall provide notice at the addresses provided in this document to MDEQ and USEPA of the Grantor's intent to transfer any interest in the Property, or any portion thereof, at least fourteen (14) business days prior to consummating the conveyance. A conveyance of title, easement, or other interest in the Property shall not be consummated by Grantor without adequate and complete provision for compliance with the terms and conditions of this Restrictive Covenant and the applicable provisions of Section 20116 of the NREPA. Grantor shall include in any instrument conveying any interest in any portion of the Property, including, but not limited to, deeds, leases, and mortgages, a notice which is in substantially the following form:

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO A DECLARATION OF RESTRICTIVE COVENANT DATED _____[month, day, year], AND RECORDED WITH THE OAKLAND COUNTY REGISTER OF DEEDS, LIBER _____, PAGE _____.

10. Notices: Any notice, demand, request, consent, approval, or communication that is required to be made or obtained under this Restrictive Covenant shall be made in writing; include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant; include the MDEQ Site ID number, and reference number; and shall be served either personally, or sent via first class mail, postage prepaid, as follows:

For MDEQ:

Chief
Office of Waste Management and Radiological Protection
Michigan Department of Environmental Quality
P.O. Box 30241
Lansing, MI 48909-7741

For USEPA:

Director
Land and Chemicals Division (DR-8J)
U.S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

with a copy to:

Office of Regional Counsel (C-14J)
U.S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

11. Term. This Restrictive Covenant shall run with the Property and shall be binding on the Owner, and all current and future successors, lessees, easement holders, their assigns, and their authorized agents, employees, or persons acting under their direction and control. This Restrictive Covenant shall continue in effect until MDEQ and RACER or their successors determine that hazardous substances present at the Property no longer present unacceptable risk to the public health, safety, welfare or the environment. This Restrictive Covenant may only be modified or rescinded with the written approval of MDEQ and RACER or their successors.
12. Compliance with this Restrictive Covenant and Applicable Due Care Obligations. The Owner shall at all times comply with the conditions and restrictions of this Declaration of Restrictive Covenant and the applicable due care obligations under Section 20107a of NREPA, MCL 324.20107a and under CERCLA, 42 U.S.C. § 9601, *et seq.* Owner agrees to maintain records of its applicable Due Care activities and shall supply copies of any records documenting such compliance upon request from Grantor or any Agency.
13. Enforcement. The Grantor is entitled to enforce the restrictions and covenants in this Restrictive Covenant by specific performance or other legal action in a court of competent jurisdiction against subsequent Owners of all or part of the Property. The Grantor, on behalf of itself and its successors in title, intends and agrees that MDEQ is entitled to enforce the restrictions and covenants in this Restrictive Covenant by specific performance or other legal action in a court of competent jurisdiction against the Grantor, as Owner, and thereafter against subsequent Owners of all or part of the Property. All remedies available hereunder shall be in addition to any and all other remedies at law or equity.
14. Severability. If any provision of this Restrictive Covenant is held to be invalid by a court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions of this Restrictive Covenant and all other provisions shall continue to remain in full force and effect.
15. Limitation on RACER's Liability. RACER's and the Administrative Trustee's liability is limited by the terms and conditions of the Settlement Agreement, which are incorporated herein by reference.
16. Authority to Execute Restrictive Covenant. The undersigned person executing this Restrictive Covenant represents and certifies that he is duly authorized and has been empowered to execute and deliver this Restrictive Covenant.
17. Notification to Potentially Interested Parties. Notification of this Restrictive Covenant has been provided to the easement holders on the Property identified in **Exhibit 6**.

18. Miscellaneous:

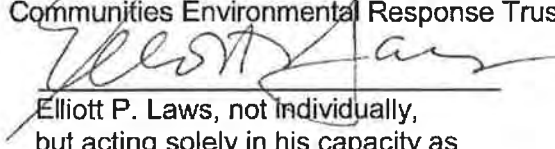
- a) Controlling Law. The interpretation and performance of this Restrictive Covenant shall be governed by the laws of the United States as to the obligations referred to in the Agreement and regulations of the State of Michigan for all other purposes hereunder (without reference to choice of laws principles thereof). The right to enforce the conditions and restrictions in this Restrictive Covenant are in addition to other rights and remedies that may be available, including, but not limited to, administrative and judicial remedies under CERCLA or Part 201 of the NREPA.
- b) Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Restrictive Covenant shall be liberally construed to affect the purpose of this Restrictive Covenant and the policy and purpose of RCRA and the land use restrictions and prospective use limitations required by Part 201. If any provision of this Restrictive Covenant is found to be ambiguous, an interpretation consistent with the purpose of this Restrictive Covenant that would render the provision valid shall be favored over any interpretation that would render it invalid.
- c) Entire Agreement. This Restrictive Covenant and its attachments and appendices supersedes all prior discussions, negotiations, understandings, or agreements relating to the matters addressed herein, all of which are merged herein.

IN WITNESS WHEREOF, RACER Properties LLC has caused this Restrictive Covenant, to be executed on this 17th day of June, 2014.

RACER PROPERTIES LLC, a Delaware limited liability company

By: Revitalizing Auto Communities Environmental Response Trust, Sole Member of RACER Properties LLC

By: EPLET, LLC, acting solely in its capacity as Administrative Trustee of Revitalizing Auto Communities Environmental Response Trust

By: 
Elliott P. Laws, not individually,
but acting solely in his capacity as
Managing Member of EPLET, LLC

Date: June 17, 2014

STATE OF MICHIGAN)
) ss:
COUNTY OF WAYNE)

On this 12 day of June, 2014, before me, a Notary Public for the State and County aforesaid, personally appeared ELLIOTT P. LAWS, who acknowledged himself to be the Managing Member of EPLET, LLC, the Administrative Trustee of the Revitalizing Auto Communities Environmental Response Trust (the "Trust"), Sole Member of RACER PROPERTIES LLC, a Delaware limited liability company, and that he, being authorized to do so, executed the foregoing Declaration of Restrictive Covenant on behalf of RACER PROPERTIES LLC, a Delaware limited liability company, not individually but solely in his capacity as Managing Member of EPLET, LLC, Administrative Trustee of the Trust, for the purposes therein contained by signing his name.

Notary Public Tracie L. Nichols

My commission expires: 3/19/17

Acting in the County of Wayne

TRACIE L. NICHOLS
Notary Public, State of Michigan
County of Oakland
My Commission Expires 03-19-2017
Acting In the County of Wayne

Prepared by and when recorded return to:

Dawda, Mann, Mulcahy & Sadler, PLC
39533 Woodward Avenue, Suite 200
Bloomfield Hills, Michigan 48304-5103
Attn: Edward C. Dawda

EXHIBIT 1

LEGAL DESCRIPTION OF PROPERTY

REF#: 3064

PPN: K-11-12-300-006

Commonly known as: 2901 Tyler Road, Ypsilanti, Washtenaw County, Michigan

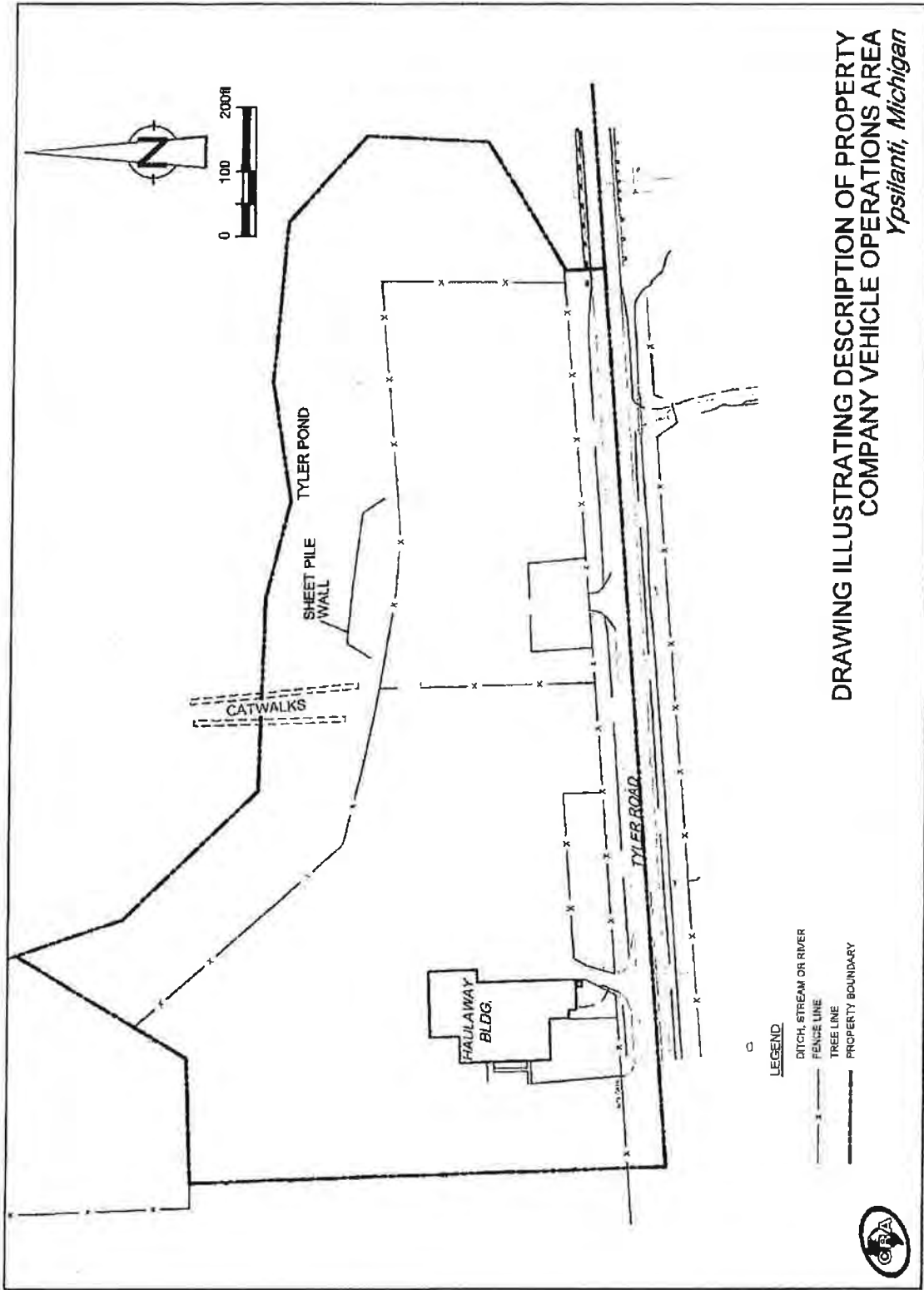
A portion of all those tracts or parcels of land lying and being in Township of Ypsilanti, Washtenaw County, State of Michigan, and being more particularly described as follows:

Part of the Southeast 1/2, Section 12, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan, commencing at Southeast corner of Section 12; thence South 87 degrees 46 minutes 46 seconds West along South line of Section 935.33 feet to point of beginning; thence continuing South 87 degrees 46 minutes 46 seconds West, along South line of Section which is also the Center line of Tyler Road (Proposed 120 feet wide) 1397.50 feet; thence North 00 degrees 00 minutes 25 seconds West, 732.97 feet; thence North 89 degrees 53 minutes 01 seconds East, 192.96 feet; thence North 33 degrees 03 minutes 21 seconds East, 305.54 feet to point that approximately the center line of Willow Run Creek; thence along center line in a Southerly direction in the Willow Run Creek the following courses and distance: South 16 degrees 47 minutes 55 seconds East, 173.21 feet; thence South 42 degrees 09 minutes 05 seconds East, 284.61 feet; thence South 86 degrees 11 minutes 10 seconds East, 300.66 feet; thence South 74 degrees 06 minutes 15 seconds East, 157 feet; thence North 83 degrees 10 minutes 55 seconds East, 185.31 feet, thence South 82 degrees 54 minutes 10 seconds East, 250.92 feet thence South 45 degrees 40 minutes 10 seconds East, 181.74 feet; thence South 04 degrees 51 minutes 50 seconds West, 188.68 feet; thence leaving the approximate centerline of the Willow Run Creek on course of South 61 degrees 16 minutes 45 seconds West, 232.01 feet to a point that is on the North line of Tyler Road; thence South 01 degrees 16 minutes 17 seconds East, 60.01 feet to point of beginning.

EXHIBIT 2

DRAWING ILLUSTRATING DESCRIPTION OF PROPERTY

(See attached)



DRAWING ILLUSTRATING DESCRIPTION OF PROPERTY COMPANY VEHICLE OPERATIONS AREA *Ypsilanti, Michigan*



017303-T05(PRES025)GN-DE007 MAY 28/2014

EXHIBIT 3

CONTAMINANTS ABOVE CRITERIA IN SOILS, GROUNDWATER, AND SOIL GAS

(See attached)

This exhibit includes a list of contaminants which are over the applicable Part 201 criteria in soils, groundwater, and soil gas. Applicable Part 201 criteria are located in the Part 201 rules MAC R 299.1 – R 299.50.

CONTAMINANT	CAS NUMBER	APPLICABLE CRITERIA EXCEEDED ¹ (ppb)
Soil		
1,1-Dichloroethene	75354	330 (NRVIC)
1,2-Dichloroethane	107082	11,000 (NRVIC, NRVSIC)
Benzene	71432	8,400 (NRVIC, NRVSIC)
cis-1,2-Dichloroethene	156605	41,000 (NRVIC, NRDC, NRVIC, SSC)
Ethylbenzene	100414	140,000 (NRVIC, SSC)
Trichloroethene	79016	1,900 (NRVIC, NRDC, NRVIC, SSC)
Toluene	108883	250,000 (NRVIC, SSC)
Vinyl Chloride	75014	2,800 (NRVIC, NRDC, NRVIC, SSC)
Xylenes (total)	1330207	150,000 (SSC)
Benzo(a)anthracene	56553	80,000 (NRDC)
Benzo(a)pyrene	50328	8,000 (NRDC)
Benzo(b)fluoranthene	205992	80,000 (NRDC)
Dibenz(a,h)anthracene	53703	8,000 (NRDC)
Di-n-butylphthalate (DBP)	84742	760,000 (SSC)
Indeno(1,2,3-cd)pyrene	193395	80,000 (NRDC)
Isopropyl benzene	98828	390,000 (NRVIC, SSC)
Phenanthrene	85018	190,000 (NRVIC)
Antimony	7440360	670,000 (NRDC, NRPSIC)
Arsenic	7440382	37,000 (NRDC)
Chromium	16065831/18540299 ²	240,000 (NRDC, NRPSIC)
Lead	7439921	900,000 (NRDC, NRPSIC)
Manganese	7439965	1,500,000 (NRPSIC)
Groundwater		
1,1-Dichloroethene	75354	7 (NRDW, GSI)
1,2,4-Trimethylbenzene	95636	17 (NRDW, GSI)
1,3-Dichlorobenzene	541731	19 (NRDW, GSI)
1,4-Dichlorobenzene	106467	17 (GSI)
2-Butanone (Methyl ethyl ketone) (MEK)	78933	2200 (NRDW, GSI)
3&4-Methylphenol	108394/106445 ³	30 (GSI)
Acetone	67641	1700 (NRDW, GSI)
Aluminum	7429905	50 (NRDW)
Antimony	7440360	8 (NRDW)
Arsenic	7440382	10 (NRDW, GSI)
Benzene	71432	5 (NRDW, GSI)
Chlorobenzene	108907	25 (NRDW, GSI)
cis-1,2-Dichloroethene	156605	70 (NRDW, GSI)
Cyanide (total)	57125	5.2 (GSI)
Di-n-butylphthalate (DBP)	84742	9.7 (GSI)
Ethylbenzene	100414	18 (NRDW, GSI)
Iron	7439896	300 (NRDW)
Isopropyl benzene	98828	28 (GSI)
Lead	7439921	4 (NRDW)
Manganese	7439965	50 (NRDW)
Mercury	7439976	0.0013 (GSI)
Methyl tert butyl ether (MTBE)	1634044	40 (NRDW)
Methylene chloride	75092	5 (NRDW, GSI)
Naphthalene	91203	11 (GSI)
PCBs	1338363	0.2 (NRDW, GSI)
Selenium	7782492	5 (NRDW, GSI)
Silver	7440224	0.2 (GSI)
Tetrachloroethene	127184	5 (NRDW, GSI)
Toluene	108883	270 (NRDW, GSI)
trans-1,2-Dichloroethene	156605	100 (NRDW, GSI)
Trichloroethene	79016	5 (NRDW, GSI, NRVA)
Vinyl chloride	75014	2 (NRDW, GSI, NRVA, FESL)
Xylenes (total)	1330207	41 (NRDW, GSI)

CONTAMINANT	CAS NUMBER	APPLICABLE CRITERIA EXCEEDED ¹ (ppb)
Soil Gas		
Trichloroethene	79016	1,200 (GSSL)
cis-1,2-Dichloroethene	156605	4,100 (GSSL)

Notes:

- 1: Only the most stringent applicable criteria value listed
- 2: CAS numbers for Chromium III and Chromium VI both listed
- 3: CAS numbers for 3-Methylphenol and 4-Methylphenol both listed

Soil Criteria:

NRSVIC: Non-Res Indoor Air Soil Volatilization Indoor Air Inhalation
 NRVSI: Non-Res Ambient Air Source Volatile Soil Inhalation
 NRDC: Non-Res Direct Contact
 NRPSIC: Non-Res Particulate Soil Inhalation
 SSC: Soil Saturation Concentration Screening Levels

Groundwater Criteria:

NRDW: Non-Res Drinking Water
 NRVIA: Non-Res GW Volatilization to Indoor Air Inhalation
 GSI: Groundwater Surface Water Interface
 WS: Water Solubility
 FESL: Flammability and Explosivity Screening Level

Soil Gas Screening Criteria

GSSL: Vapor Intrusion Shallow Soil Gas (sub-slab)

EXHIBIT 4

DESCRIPTION OF ALLOWABLE USES

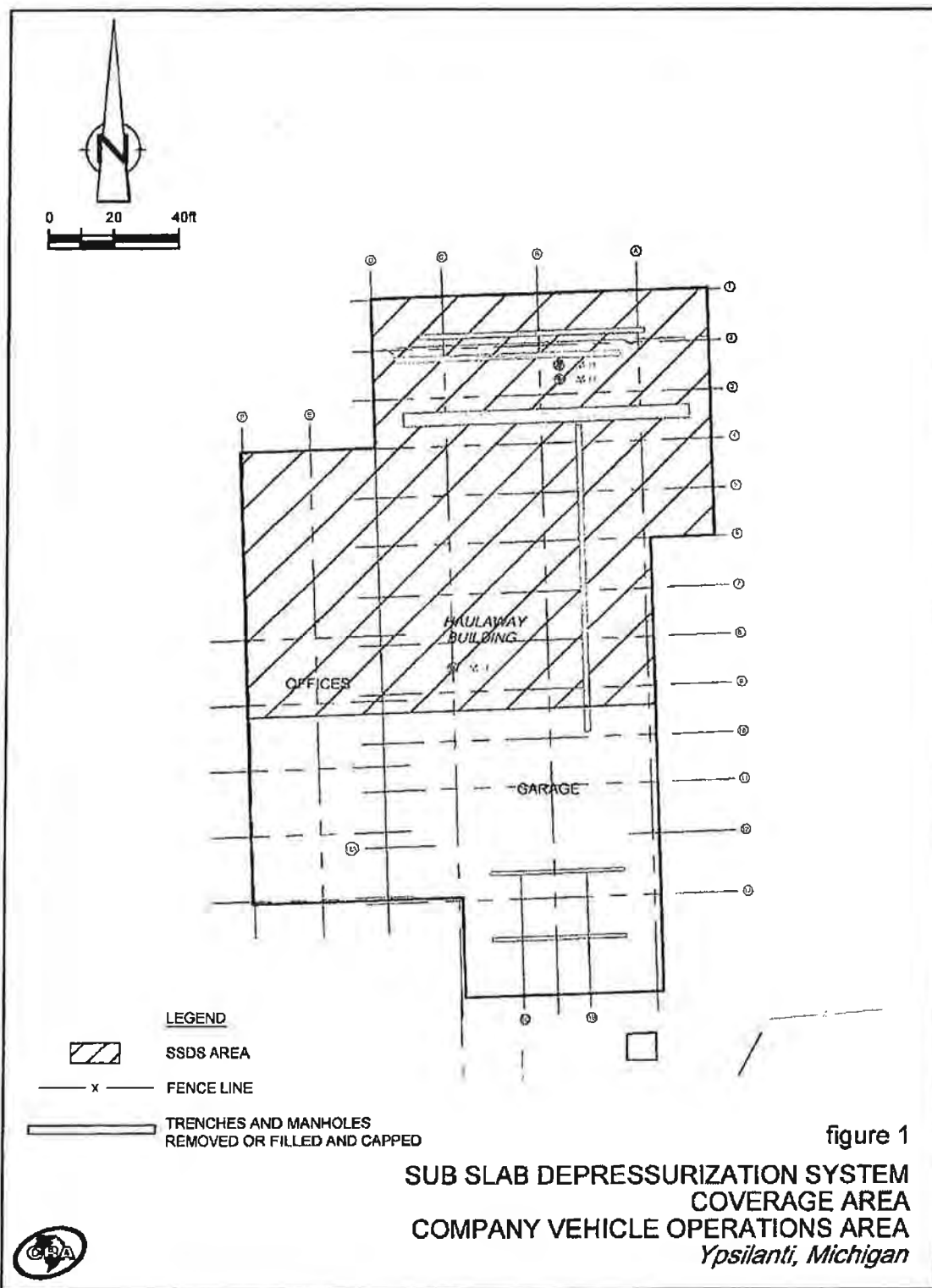
Nonresidential Land Use: This land use is characterized by any use which is not residential in nature and is primarily characterized by industrial and commercial uses. Industrial uses typically involve manufacturing operations engaged in processing and manufacturing of materials or products. Other examples of industrial uses are utility companies, industrial research and development, and petroleum bulk storage. Commercial uses include any business or income-producing use such as commercial warehouses, lumber yards, retail gas stations, auto dealerships and service stations, as well as office buildings, banks, and medical/dental offices (not including hospitals). Commercial uses also include retail businesses whose principal activity is the sale of food or merchandise within an enclosed building and personal service establishments which perform services indoors such as health clubs, barber/beauty salons, photographic studios, etc. The use of the Property for a car condominium and the storage and display of automobiles and related activities is an acceptable use under the nonresidential land use category.

Any residential use is specifically prohibited from the non-residential land use category. This would include the primary use of the property for human habitation and includes structures such as single family dwellings, multiple family structures, mobile homes, residential condominiums, and apartment buildings. Residential use is also characterized by any use which is intended to house, educate, or provide care for children, the elderly, the infirm, or other sensitive populations, and therefore could include day care centers, educational facilities, hospitals, elder care facilities, and nursing homes. The use of any accessory building or portion of an existing building as a dwelling unit permitted for a proprietor or storekeeper and their families, located in the same building as their place of occupation, or for a watchman or caretaker is also prohibited. Any authority that allows for residential use of the Property as a legal non-conforming use is also restricted per the prohibitions contained in this restrictive covenant.

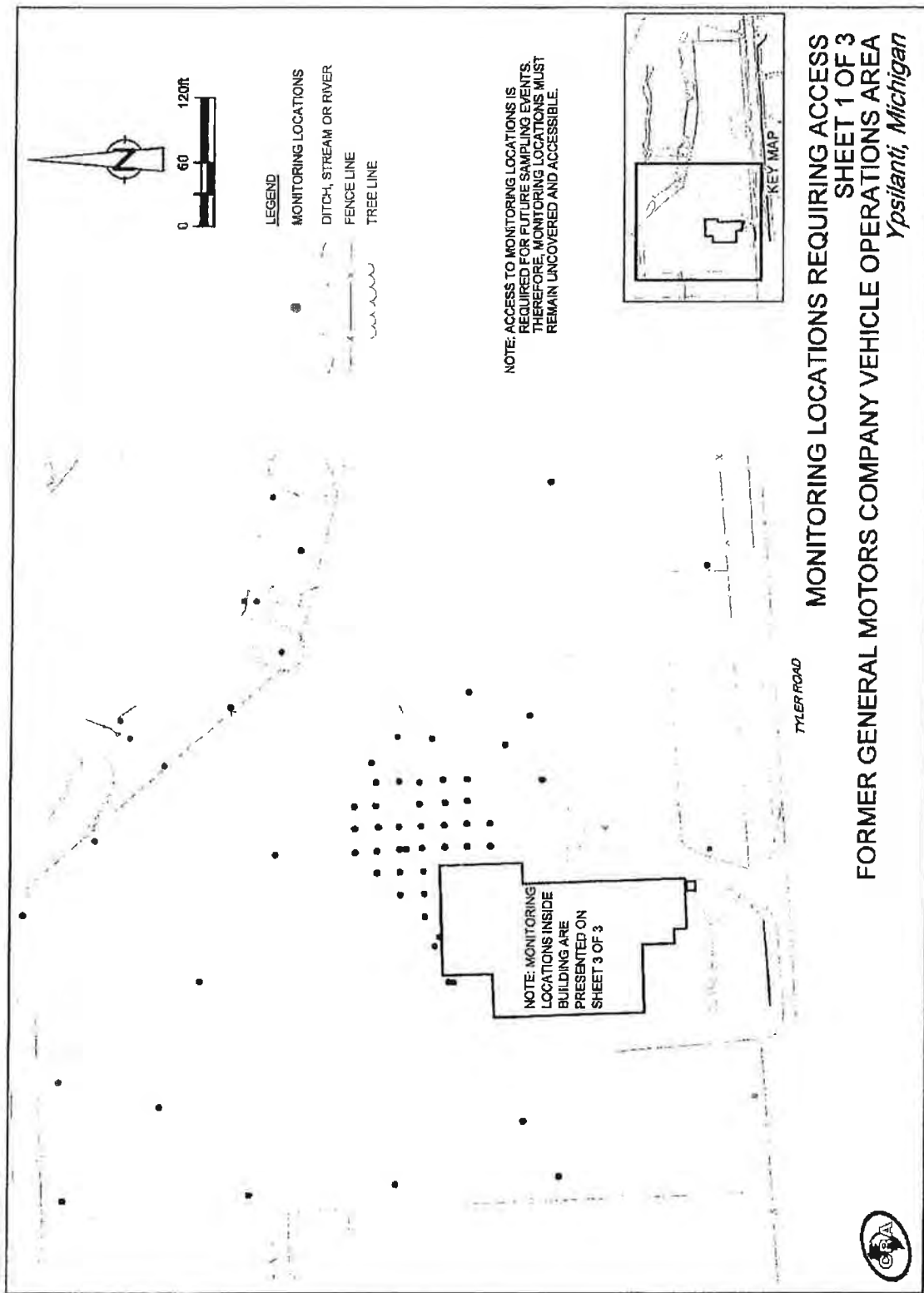
EXHIBIT 5

RESTRICTED AREAS OF THE PROPERTY

(See attached)



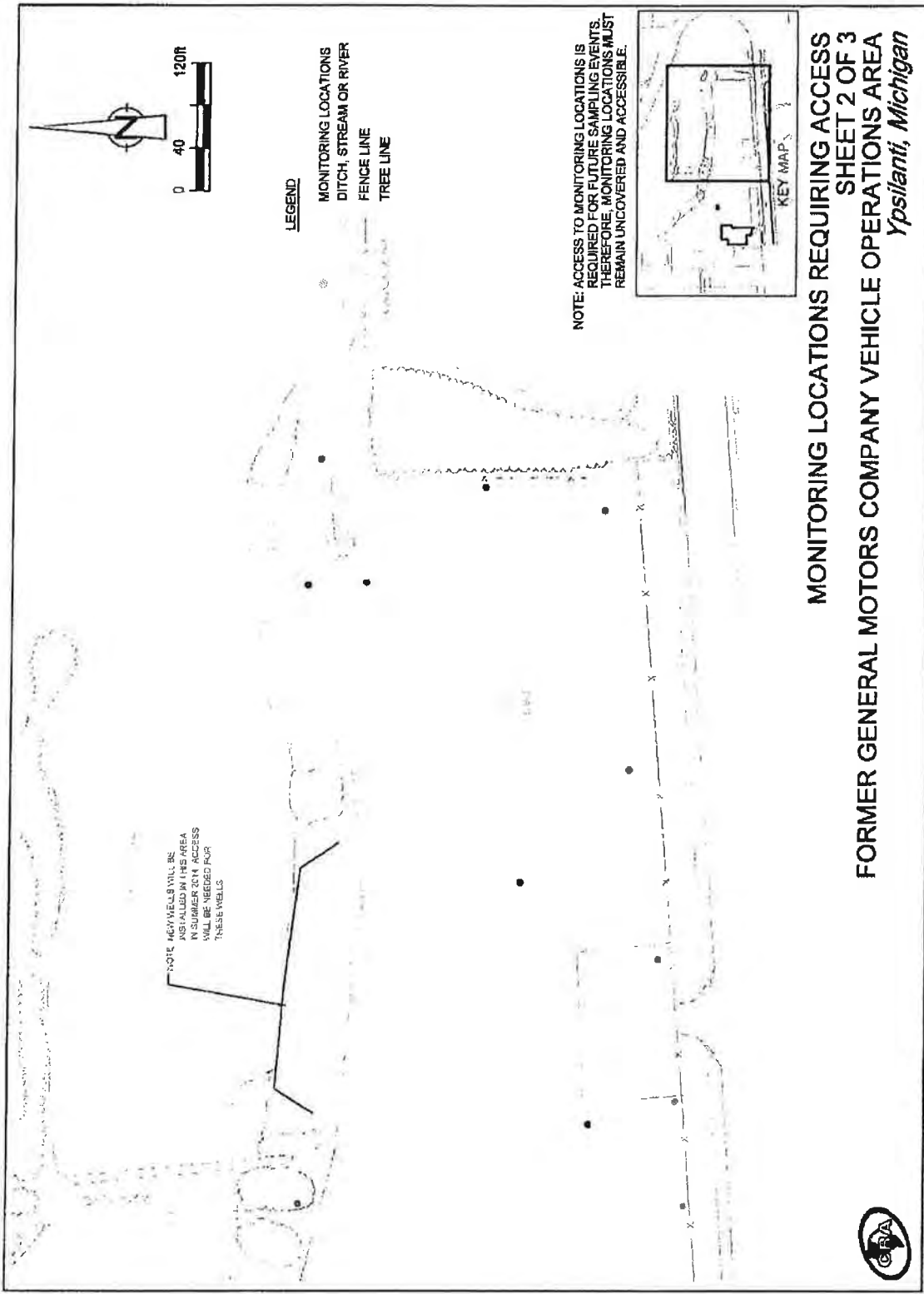




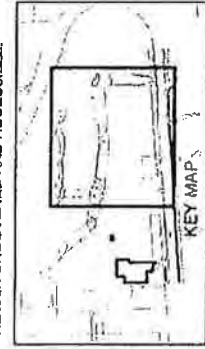
MONITORING LOCATIONS REQUIRING ACCESS
SHEET 1 OF 3
FORMER GENERAL MOTORS COMPANY VEHICLE OPERATIONS AREA
Ypsilanti, Michigan



017303-T05(P-RES025)GN-DE001 MAY 30/2014

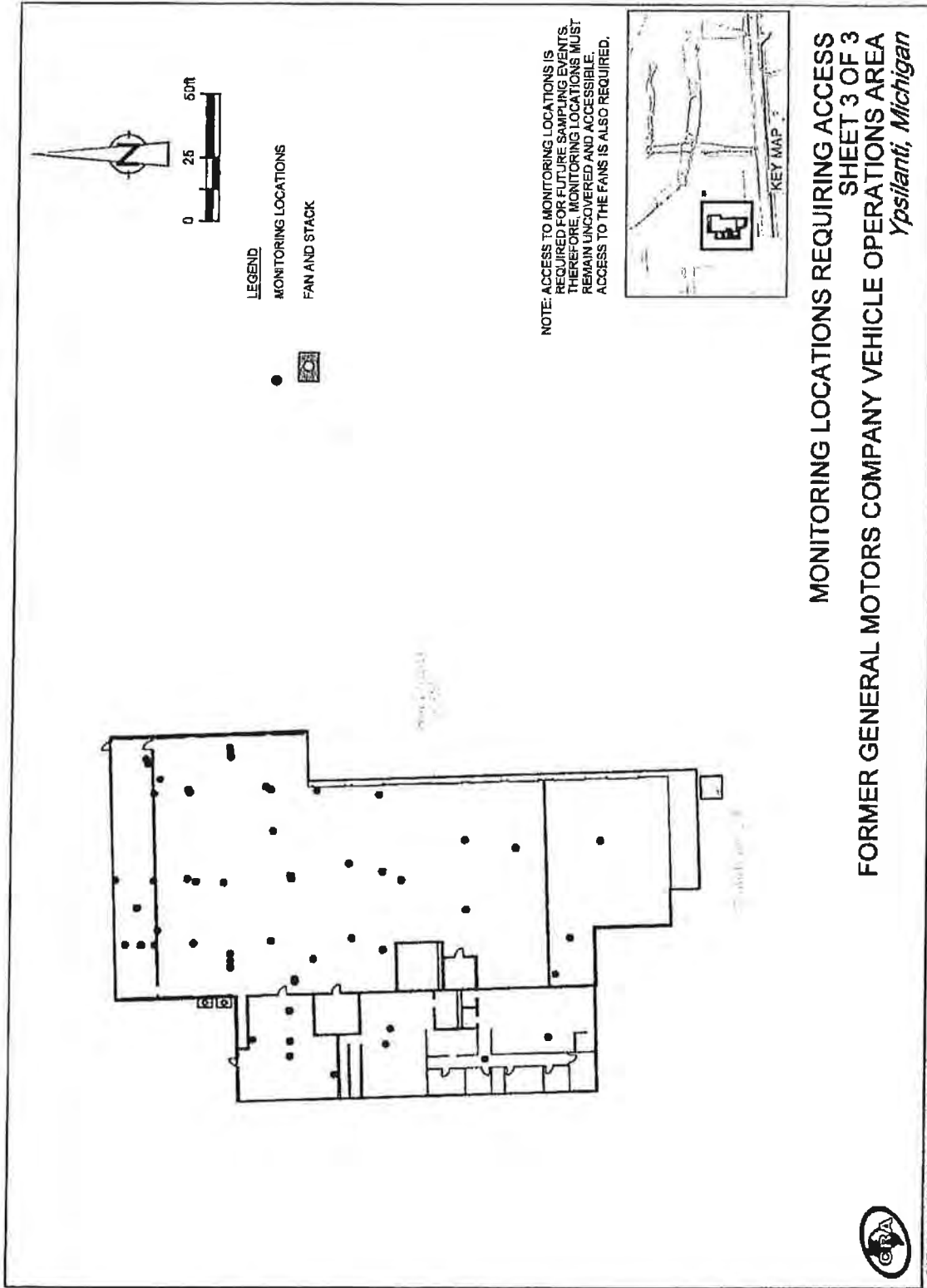


NOTE: ACCESS TO MONITORING LOCATIONS IS REQUIRED FOR FUTURE SAMPLING EVENTS. THEREFORE, MONITORING LOCATIONS MUST REMAIN UNCOVERED AND ACCESSIBLE.



MONITORING LOCATIONS REQUIRING ACCESS
SHEET 2 OF 3
FORMER GENERAL MOTORS COMPANY VEHICLE OPERATIONS AREA
Ypsilanti, Michigan





017303-T05(PRES025)GN-DE003 MAY 30/2014

EXHIBIT 6

NOTICE TO EASEMENT HOLDERS

**DTE ENERGY
YPSILANTI COMMUNITY UTILITIES AUTHORITY
WASHTENAW COUNTY ROAD COMMISSION**

Appendix C

EGL E GSI TAPS Evaluation for CVO



**REMEDATION AND REDEVELOPMENT DIVISION
GROUNDWATER/SURFACE WATER (GSI) TAPS TEAM
REVIEW & TRACKING FORM**

The recommendation provided below is based upon the information presented herein and does not constitute a full file review. This document does not convey or imply any other position of the Michigan Department of Environment, Great Lakes and Energy (EGLE)) with regards to known or potential environmental conditions and compliance with environmental protection laws and regulations at this location. EGLE makes no warranty or guarantee as to the fitness of this site for any general or specific use. Prospective purchasers or users of this site are advised to use due diligence in acquiring or using this site. Please refer to the site file for more information.

GSI TAPS Team Discussion/ Conclusions/ Recommendations made on submittal:

Statement of Understanding:

An area of the RACER Willow Run Company Vehicle Operations (CVO) facility located at 2901 Tyler Road in Ypsilanti was used as a disposal location that contaminated soil and groundwater with VOCs, SVOCs, PCBs and metals. CVOs are the primary groundwater contaminants of concern. Multiple response actions have been conducted on the property in the past.

A dam in Willow Run Creek was removed in 2017 which eliminated Tyler Pond and returned water levels to their original conditions in the creek. An investigation in 2018 confirmed soil contamination above GSI protection criteria; however, groundwater was not encountered during the investigation.

Four groundwater seeps from the former streambank were sampled and one seep location (#4) had concentrations of vinyl chloride above GSI criteria.

The CSM for this area identifies a confining clay layer between the shallow water-bearing sand unit on site and the new bank of Willow Run Creek.

Recommendations: *The GSI TAPS offers the following determinations and recommendations to the Jackson District Office:*

- *Based upon the information presented, it was determined that groundwater is no longer hydraulically connected to the creek following the dam removal.*
- *The groundwater seeps above the creek should be sampled and conditions documented on a seasonal basis to build a line of evidence that contaminants that may be detected are at or below generic GSI criteria.*

Part of the investigation involved collecting pore water samples from within/beneath the stream bed. Since it does not appear that groundwater is hydraulically connected to the stream based upon the geology, the samples collected within/beneath the stream bed were likely surface water. Contaminant concentrations that were detected in the pore water samples are likely associated with the sediments of the creek.

- Because a sediment removal in the pond was completed by multiple parties in the past, it is recommended to obtain the information about the previous sediment removal to determine the area of the excavation, the amount removed and if sediment samples were collected after the removal.
- Depending upon the information available from the sediment removal, it may be appropriate to develop a sediment sampling plan to verify the data or collect data from areas in the streambed that were not investigated after the removal.
 - Contaminant concentrations in the sediment can be compared to USEPA's Ecological Sediment Screening Levels (USEPA August 2003) or any other nationally recognized screening values that may then be used as site specific criteria for sediment with concurrence from Water Resources Division and the Remediation & Redevelopment Division.
- Collecting surface water samples in Willow Run Creek can be used as a line of evidence of contaminant conditions in the water body that may need additional delineation.



Project Manager/ GSI POC

6/22/22

Date



GSI Team Leader

6/22/22

Date

Appendix D

Willow Run CVO Groundwater and Soil 3D Modeling Parameters

GHD prepared a 3-dimensional Conceptual Site Model (3D CSM) of the Willow Run CVO area in Ypsilanti, MI, USA. The model includes geologic data and groundwater and soil analytical data. The geologic data contains simplified stratigraphy from borehole logging data collected on site. The groundwater and soil analytical data includes benzene, trichloroethene, cis-1,2-dichloroethene, and vinyl chloride. The groundwater analytical data includes sampling events from 2011 to 2024, separated by year as a time series. The soil analytical data includes data collected from 1996 to 2019. The model provides a visualization and estimation of groundwater plumes and soil impacts in the affected area by interpolating analytical data in time and space. Below is a detailed explanation of how the data was plotted and modeled.

1. Groundwater Chemistry Plotting and Interpolation

1.1 Groundwater Chemistry Sample Data Plotting

Groundwater chemistry samples are plotted in three-dimensional (3D) space using the Easting, Northing, and ground surface coordinates recorded for each well installation. Screened interval top and bottom depths are used to plot the well screens appropriately in the subsurface. The screens are color-coded based on sample concentration values. Sampling events for each calendar year from 2011 through 2024 are plotted separately, excluding 2020, 2021, and 2022 when no groundwater sampling took place. The interactive deliverable allows the choice of which calendar year to view and only wells with actual sampling results for the chosen calendar year are plotted.

1.2 Groundwater Chemistry Data Spatial Interpolation

The 3D distribution of groundwater concentration for each COC was estimated using 3D interpolation. The vertical extent of the estimated impact is set to between the shallow groundwater table and the underlying clay unit. Interpolation is confined to below the groundwater elevation surface as determined by depth to water gauging and above the underlying and laterally continuous clay unit (considered as an aquitard) while ensuring to honor the sample data. The groundwater elevation surface is based on the groundwater elevation gauging data from the most recent sampling event for each monitoring well. The top of the underlying clay unit is based on the borehole lithologic logging data also used to create the 3D geologic model. The groundwater elevation surface and the top of the clay unit are estimated using the 2D Kriging algorithm within a rectilinear grid that has a nominal horizontal resolution of 20 ft. The Kriging algorithm was developed for estimating geologic data distribution across a spatial field. The algorithm employs a 2-step spatial interpolation process that first determines the spatial covariance of the data by fitting a variogram to the data, which is then used to assign weighting to the spatial component of the data. The rectilinear grid extent is set to include all monitoring wells with a depth to water measurement within the area of interest. The grid used for the 3D interpolation of concentration has the same horizontal dimensions (20 ft resolution) as the groundwater elevation surface and a nominal vertical resolution of 1 ft. The 3D gridding is done using the 3D Kriging algorithm. The anisotropy of the COC concentration interpolation is set at 20:1, horizontal to vertical. Therefore, the interpolation of the COC concentration distribution places 20 times more weight on spreading in the horizontal direction compared to spreading in the vertical direction. The anisotropy of the interpolation was determined by variogram best fit to the spatial covariance of the data.

1.3 Groundwater Chemistry Data Temporal Interpolation

The 3D spatial extent of groundwater impact was estimated for each calendar year from 2011 through 2024, excluding 2020-2022. The results for a chosen calendar year can be displayed in the 3D model deliverable. When individual wells were sampled multiple times during one calendar year, the latest result for the year is used in the interpolation, after confirming no extreme variances were present in the concentration values.

Several wells do not have continuous time series results because not all wells were sampled each year. To ensure a comparable spatial dataset for each calendar year, temporal interpolation of the COC concentrations is performed. For wells that were not sampled every calendar year, linear interpolation of COC concentrations between actual sampling events is used to calculate concentration values at each well for the calendar years when those wells were not sampled. When wells were not sampled at the beginning or end of the time series, 2011 through 2024, results from the nearest-in-time sampling event at that well are propagated forward or backward in time to complete the time series for each well. An example of the temporal interpolation is shown below.

2011	2012	2013 -	- 2018	2019	2023	2024
Backward Propagation of Actual Sample 2012	Actual Measured Sample 2012	Linear Interpolation between Actual Samples 2012 and 2019 to estimate values for years 2013 - 2018		Actual Measured Sample 2019	Forward Propagation of Actual Sample 2019	

2. Soil Chemistry Plotting and Interpolation

2.1 Soil Chemistry Sample Data Plotting

Soil chemistry samples for each COC are plotted in 3D space using the Easting, Northing, ground surface, and sample depth coordinates recorded for each sample. Sample depths are chosen as the midpoint of the sample interval used for the chemistry results. The plotted samples are color-coded based on sample concentration values. Because of their discrete nature and inability to resample in time, soil samples from 1996 through 2019 are plotted together without temporal consideration.

2.2 Soil Chemistry Data Interpolation

The 3D distribution of soil concentration for each constituent of concern was estimated using 3D interpolation. The concentration for each COC was estimated using the 3D Kriging algorithm within a rectilinear grid that has a nominal horizontal resolution of 20 ft and a nominal vertical resolution of 1 ft. The rectilinear grid horizontal extent is set to include all soil borings within the area of interest while the vertical extent is confined beneath the ground surface and above the lowest elevation soil sample. The anisotropy of the COC concentration interpolation is set at 20:1, horizontal to vertical. Therefore, the interpolation of the COC concentration distribution places 20 times more weight on spreading in the horizontal direction compared to spreading in the vertical direction. The anisotropy of the interpolation was determined by variogram best fit to the spatial covariance of the data. Because of their discrete nature and inability to resample in time, soil samples from 1996 through 2019 are interpolated together without temporal consideration.

3. Geology Plotting and Interpolation

3.1 Geology Boring Data Plotting

Geology borings are plotted in 3D space using the Easting, Northing, ground surface, and sample depth coordinates recorded for each logging sample. The stratigraphy is simplified based on primary grain size distribution: clay, silt, sand, gravel, etc. For mixed grain size lithologies, the dominant grain size is assigned. For example: sandy silt becomes silt and silty sand becomes sand.

3.2 Geology Boring Data Interpolation

The 3D distribution of the geology data was estimated using 3D interpolation. The distribution and laterally continuity of each lithology was estimated using the 3D Indicator Kriging algorithm within a rectilinear grid that has a nominal horizontal resolution of 20 ft and a nominal vertical resolution of 1 ft. The rectilinear grid's horizontal extent is set to include all borings within the area of interest while the vertical extent is confined beneath the ground surface and above the lowest elevation logging sample. The anisotropy of the lithology interpolation is set at 20:1, horizontal to vertical. Therefore, the interpolation of the lithology distribution places 20 times more weight on spreading in the horizontal direction compared to spreading in the vertical direction. The anisotropy of the interpolation was determined by variogram best fit to the spatial covariance of the data. The resulting block model of 3D interpolated geology is then cut to the area of interest.

Appendix E

Laboratory Reports

Groundwater Analytical Data Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 7/28/2023 5:58:28 AM

JOB DESCRIPTION

11223983-T02-Y23.03-Y23 , RACER Willow Run CVO

JOB NUMBER

240-188427-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
7/28/2023 5:58:28 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	11
Client Sample Results	12
QC Association Summary	66
QC Sample Results	68
Surrogate Summary	86
Lab Chronicle	88
Certification Summary	93
Chain of Custody	94



Case Narrative

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run CVC

Job ID: 240-188427-1

Job ID: 240-188427-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-188427-1

Comments

No additional comments.

Receipt

The samples were received on 7/13/2023 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-581512 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-11223983-071123 (240-188427-1), GW-11223983-071123-DR-001 (240-188427-2), GW-11223983-071123-DR-002 (240-188427-3), GW-11223983-071123-DR-003 (240-188427-4), GW-11223983-071123-DR-004 (240-188427-5), GW-11223983-071123-DR-005 (240-188427-6), GW-11223983-071123-DR-006 (240-188427-7), GW-11223983-071123-DR-007 (240-188427-8), GW-11223983-071123-DR-008 (240-188427-9), GW-11223983-071123-DR-009 (240-188427-10), GW-11223983-071123-DR-010 (240-188427-11), GW-11223983-071123-DR-011 (240-188427-12), GW-11223983-071123-DR-012 (240-188427-13), (CCV 240-581512/4), (CCVIS 240-581512/3), (LCS 240-581512/5), (LCS 240-581512/6), (MB 240-581512/8), (240-188454-C-5), (240-188454-B-5 MS) and (240-188454-F-5 MSD).

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-581615 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: GW-11223983-071123-DR-006 (240-188427-7), GW-11223983-071123-DR-008 (240-188427-9), (CCV 240-581615/4), (CCVIS 240-581615/3), (LCS 240-581615/5), (LCS 240-581615/6), (MB 240-581615/8), (240-188442-B-6), (240-188442-B-6 MS) and (240-188442-B-6 MSD).

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-581555 was outside the method criteria for the following analyte(s): 1,2-Dichloroethane and Trichlorofluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: Sample: GW-11223983-071223-DR-013 (240-188427-14) was decanted into a new 40 mL vial from 2 sample vials due to particulate matter and fine particles in the bottom of the vials.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-581619 was outside the method criteria for the following analyte(s): Bromomethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-581701 was outside the method criteria for the following analyte(s): 1,2-Dichloroethane, Chloromethane and Cyclohexane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-188427-1	TB-11223983-071123	Water	07/11/23 00:00	07/13/23 09:20
240-188427-2	GW-11223983-071123-DR-001	Water	07/11/23 09:45	07/13/23 09:20
240-188427-3	GW-11223983-071123-DR-002	Water	07/11/23 09:50	07/13/23 09:20
240-188427-4	GW-11223983-071123-DR-003	Water	07/11/23 10:00	07/13/23 09:20
240-188427-5	GW-11223983-071123-DR-004	Water	07/11/23 10:40	07/13/23 09:20
240-188427-6	GW-11223983-071123-DR-005	Water	07/11/23 09:35	07/13/23 09:20
240-188427-7	GW-11223983-071123-DR-006	Water	07/11/23 10:35	07/13/23 09:20
240-188427-8	GW-11223983-071123-DR-007	Water	07/11/23 13:05	07/13/23 09:20
240-188427-9	GW-11223983-071123-DR-008	Water	07/11/23 13:10	07/13/23 09:20
240-188427-10	GW-11223983-071123-DR-009	Water	07/11/23 12:30	07/13/23 09:20
240-188427-11	GW-11223983-071123-DR-010	Water	07/11/23 13:00	07/13/23 09:20
240-188427-12	GW-11223983-071123-DR-011	Water	07/11/23 14:20	07/13/23 09:20
240-188427-13	GW-11223983-071123-DR-012	Water	07/11/23 14:35	07/13/23 09:20
240-188427-14	GW-11223983-071223-DR-013	Water	07/12/23 08:20	07/13/23 09:20
240-188427-15	GW-11223983-071223-DR-014	Water	07/12/23 09:25	07/13/23 09:20
240-188427-16	GW-11223983-071223-DR-015	Water	07/12/23 11:05	07/13/23 09:20
240-188427-17	GW-11223983-071223-DR-016	Water	07/12/23 12:25	07/13/23 09:20
240-188427-18	GW-11223983-071223-DR-017	Water	07/12/23 10:30	07/13/23 09:20
240-188427-19	GW-11223983-071223-DR-018	Water	07/12/23 10:20	07/13/23 09:20
240-188427-20	GW-11223983-071223-DR-019	Water	07/12/23 11:10	07/13/23 09:20
240-188427-21	GW-11223983-071223-DR-020	Water	07/12/23 11:15	07/13/23 09:20
240-188427-22	GW-11223983-071223-DR-021	Water	07/12/23 11:30	07/13/23 09:20
240-188427-23	GW-11223983-071223-DR-022	Water	07/12/23 11:50	07/13/23 09:20
240-188427-24	GW-11223983-071223-DR-023	Water	07/12/23 12:20	07/13/23 09:20
240-188427-25	GW-11223983-071223-DR-024	Water	07/12/23 12:55	07/13/23 09:20
240-188427-26	GW-11223983-071223-DR-025	Water	07/12/23 13:25	07/13/23 09:20
240-188427-27	GW-11223983-071223-DR-026	Water	07/12/23 13:20	07/13/23 09:20

Detection Summary

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Client Sample ID: TB-11223983-071123

Lab Sample ID: 240-188427-1

No Detections.

Client Sample ID: GW-11223983-071123-DR-001

Lab Sample ID: 240-188427-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	330		10	4.6	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	13		10	5.1	ug/L	10		8260D	Total/NA
Trichloroethene	8.0	J	10	4.4	ug/L	10		8260D	Total/NA
Vinyl chloride	140		10	4.5	ug/L	10		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-002

Lab Sample ID: 240-188427-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	300		10	4.6	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	11		10	5.1	ug/L	10		8260D	Total/NA
Trichloroethene	5.1	J	10	4.4	ug/L	10		8260D	Total/NA
Vinyl chloride	140		10	4.5	ug/L	10		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-003

Lab Sample ID: 240-188427-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1600		50	23	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene	100		50	26	ug/L	50		8260D	Total/NA
Vinyl chloride	2100		50	23	ug/L	50		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-004

Lab Sample ID: 240-188427-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1400		100	46	ug/L	100		8260D	Total/NA
Vinyl chloride	2100		100	45	ug/L	100		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-005

Lab Sample ID: 240-188427-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	51		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	3.3		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-006

Lab Sample ID: 240-188427-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	460		20	9.2	ug/L	20		8260D	Total/NA
trans-1,2-Dichloroethene	14	J	20	10	ug/L	20		8260D	Total/NA
Vinyl chloride	1100		40	18	ug/L	40		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-007

Lab Sample ID: 240-188427-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.91	J	1.0	0.46	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-008

Lab Sample ID: 240-188427-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.0	J	5.0	2.1	ug/L	5		8260D	Total/NA
cis-1,2-Dichloroethene	9.9		5.0	2.3	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Detection Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: GW-11223983-071123-DR-008 (Continued)

Lab Sample ID: 240-188427-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	290		10	4.5	ug/L	10		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-009

Lab Sample ID: 240-188427-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	3.0		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-010

Lab Sample ID: 240-188427-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromomethane	0.54	J	1.0	0.42	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	9.6		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.87	J	1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071123-DR-011

Lab Sample ID: 240-188427-12

No Detections.

Client Sample ID: GW-11223983-071123-DR-012

Lab Sample ID: 240-188427-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	52		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	4.0		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	51		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-013

Lab Sample ID: 240-188427-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.3		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.69	J	1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	0.59	J	1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	0.97	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-014

Lab Sample ID: 240-188427-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	11		1.0	0.48	ug/L	1		8260D	Total/NA
1,1-Dichloroethane	1.5		1.0	0.47	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.62	J	1.0	0.46	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-015

Lab Sample ID: 240-188427-16

No Detections.

Client Sample ID: GW-11223983-071223-DR-016

Lab Sample ID: 240-188427-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.8		1.0	0.42	ug/L	1		8260D	Total/NA
Chlorobenzene	7.0		1.0	0.38	ug/L	1		8260D	Total/NA
Vinyl chloride	5.8		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Detection Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: GW-11223983-071223-DR-017

Lab Sample ID: 240-188427-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	7.0		1.0	0.49	ug/L	1		8260D	Total/NA
Benzene	34		1.0	0.42	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	25000		1000	460	ug/L	1000		8260D	Total/NA
Cyclohexane	2.2		1.0	0.48	ug/L	1		8260D	Total/NA
Ethylbenzene	11		1.0	0.42	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	24		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	150000		5000	2300	ug/L	5000		8260D	Total/NA
Xylenes, Total	55		2.0	0.42	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-018

Lab Sample ID: 240-188427-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.7		2.0	0.84	ug/L	2		8260D	Total/NA
cis-1,2-Dichloroethene	2.1		2.0	0.92	ug/L	2		8260D	Total/NA
Cyclohexane	13		2.0	0.96	ug/L	2		8260D	Total/NA
Ethylbenzene	17		2.0	0.84	ug/L	2		8260D	Total/NA
Isopropylbenzene	4.4		2.0	0.98	ug/L	2		8260D	Total/NA
Methylcyclohexane	1.9	J	2.0	0.66	ug/L	2		8260D	Total/NA
Toluene	14		2.0	0.88	ug/L	2		8260D	Total/NA
Vinyl chloride	43		2.0	0.90	ug/L	2		8260D	Total/NA
Xylenes, Total	71		4.0	0.84	ug/L	2		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-019

Lab Sample ID: 240-188427-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	40000		1000	460	ug/L	1000		8260D	Total/NA
Vinyl chloride	26000		1000	450	ug/L	1000		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-020

Lab Sample ID: 240-188427-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	27000		1000	460	ug/L	1000		8260D	Total/NA
Vinyl chloride	18000		1000	450	ug/L	1000		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-021

Lab Sample ID: 240-188427-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	200		25	11	ug/L	25		8260D	Total/NA
cis-1,2-Dichloroethene	160		25	12	ug/L	25		8260D	Total/NA
Ethylbenzene	86		25	11	ug/L	25		8260D	Total/NA
Isopropylbenzene	20	J	25	12	ug/L	25		8260D	Total/NA
Toluene	18	J	25	11	ug/L	25		8260D	Total/NA
trans-1,2-Dichloroethene	17	J	25	13	ug/L	25		8260D	Total/NA
Vinyl chloride	1400		25	11	ug/L	25		8260D	Total/NA
Xylenes, Total	170		50	11	ug/L	25		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-022

Lab Sample ID: 240-188427-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.6		1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Detection Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: GW-11223983-071223-DR-023

Lab Sample ID: 240-188427-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	20000		1000	450	ug/L	1000		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-024

Lab Sample ID: 240-188427-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	250	J	2000	230	ug/L	200		8260D	Total/NA
cis-1,2-Dichloroethene	170	J	200	92	ug/L	200		8260D	Total/NA
Vinyl chloride	3800		200	90	ug/L	200		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-025

Lab Sample ID: 240-188427-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		50	23	ug/L	50		8260D	Total/NA
Vinyl chloride	1200		50	23	ug/L	50		8260D	Total/NA

Client Sample ID: GW-11223983-071223-DR-026

Lab Sample ID: 240-188427-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	130	J	1000	120	ug/L	100		8260D	Total/NA
cis-1,2-Dichloroethene	220		100	46	ug/L	100		8260D	Total/NA
Vinyl chloride	3200		100	45	ug/L	100		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: TB-11223983-071123

Lab Sample ID: 240-188427-1

Date Collected: 07/11/23 00:00

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 13:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 13:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 13:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 13:55	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 13:55	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 13:55	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 13:55	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 13:55	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 13:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 13:55	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 13:55	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 13:55	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 13:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 13:55	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 13:55	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 13:55	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 13:55	1
Acetone	10	U	10	5.4	ug/L			07/23/23 13:55	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 13:55	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 13:55	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 13:55	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 13:55	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 13:55	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 13:55	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 13:55	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 13:55	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 13:55	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 13:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/23/23 13:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 13:55	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 13:55	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 13:55	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 13:55	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 13:55	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 13:55	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 13:55	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 13:55	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 13:55	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 13:55	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 13:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 13:55	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 13:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 13:55	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 13:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 13:55	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 13:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/23/23 13:55	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 13:55	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		78 - 122		07/23/23 13:55	1
Dibromofluoromethane (Surr)	105		73 - 120		07/23/23 13:55	1
4-Bromofluorobenzene (Surr)	103		56 - 136		07/23/23 13:55	1
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		07/23/23 13:55	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-001

Lab Sample ID: 240-188427-2

Date Collected: 07/11/23 09:45

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	10	U	10	4.8	ug/L			07/23/23 19:53	10
1,1,2,2-Tetrachloroethane	10	U	10	6.0	ug/L			07/23/23 19:53	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	4.1	ug/L			07/23/23 19:53	10
1,1,2-Trichloroethane	10	U	10	4.8	ug/L			07/23/23 19:53	10
1,1-Dichloroethane	10	U	10	4.7	ug/L			07/23/23 19:53	10
1,1-Dichloroethene	10	U	10	4.9	ug/L			07/23/23 19:53	10
1,2,4-Trichlorobenzene	10	U	10	7.7	ug/L			07/23/23 19:53	10
1,2-Dibromo-3-Chloropropane	20	U	20	9.1	ug/L			07/23/23 19:53	10
Ethylene Dibromide	10	U	10	4.1	ug/L			07/23/23 19:53	10
1,2-Dichlorobenzene	10	U	10	4.8	ug/L			07/23/23 19:53	10
1,2-Dichloroethane	10	U	10	4.6	ug/L			07/23/23 19:53	10
1,2-Dichloropropane	10	U	10	4.7	ug/L			07/23/23 19:53	10
1,3-Dichlorobenzene	10	U	10	4.5	ug/L			07/23/23 19:53	10
1,4-Dichlorobenzene	10	U	10	4.1	ug/L			07/23/23 19:53	10
2-Butanone (MEK)	100	U	100	12	ug/L			07/23/23 19:53	10
2-Hexanone	100	U	100	11	ug/L			07/23/23 19:53	10
4-Methyl-2-pentanone (MIBK)	100	U	100	9.9	ug/L			07/23/23 19:53	10
Acetone	100	U	100	54	ug/L			07/23/23 19:53	10
Benzene	10	U	10	4.2	ug/L			07/23/23 19:53	10
Dichlorobromomethane	10	U	10	3.8	ug/L			07/23/23 19:53	10
Bromoform	10	U	10	7.6	ug/L			07/23/23 19:53	10
Bromomethane	10	U	10	4.2	ug/L			07/23/23 19:53	10
Carbon disulfide	10	U	10	5.9	ug/L			07/23/23 19:53	10
Carbon tetrachloride	10	U	10	2.6	ug/L			07/23/23 19:53	10
Chlorobenzene	10	U	10	3.8	ug/L			07/23/23 19:53	10
Chloroethane	10	U	10	8.3	ug/L			07/23/23 19:53	10
Chloroform	10	U	10	4.7	ug/L			07/23/23 19:53	10
Chloromethane	10	U	10	6.3	ug/L			07/23/23 19:53	10
cis-1,2-Dichloroethene	330		10	4.6	ug/L			07/23/23 19:53	10
cis-1,3-Dichloropropene	10	U	10	6.1	ug/L			07/23/23 19:53	10
Cyclohexane	10	U	10	4.8	ug/L			07/23/23 19:53	10
Chlorodibromomethane	10	U	10	3.9	ug/L			07/23/23 19:53	10
Dichlorodifluoromethane	10	U	10	3.5	ug/L			07/23/23 19:53	10
Ethylbenzene	10	U	10	4.2	ug/L			07/23/23 19:53	10
Isopropylbenzene	10	U	10	4.9	ug/L			07/23/23 19:53	10
Methyl acetate	100	U	100	17	ug/L			07/23/23 19:53	10
Methyl tert-butyl ether	10	U	10	4.7	ug/L			07/23/23 19:53	10
Methylcyclohexane	10	U	10	3.3	ug/L			07/23/23 19:53	10
Methylene Chloride	50	U	50	26	ug/L			07/23/23 19:53	10
Styrene	10	U	10	4.5	ug/L			07/23/23 19:53	10
Tetrachloroethene	10	U	10	4.4	ug/L			07/23/23 19:53	10
Toluene	10	U	10	4.4	ug/L			07/23/23 19:53	10
trans-1,2-Dichloroethene	13		10	5.1	ug/L			07/23/23 19:53	10
trans-1,3-Dichloropropene	10	U	10	6.7	ug/L			07/23/23 19:53	10
Trichloroethene	8.0	J	10	4.4	ug/L			07/23/23 19:53	10
Trichlorofluoromethane	10	U	10	4.5	ug/L			07/23/23 19:53	10
Vinyl chloride	140		10	4.5	ug/L			07/23/23 19:53	10
Xylenes, Total	20	U	20	4.2	ug/L			07/23/23 19:53	10

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		78 - 122		07/23/23 19:53	10
Dibromofluoromethane (Surr)	101		73 - 120		07/23/23 19:53	10
4-Bromofluorobenzene (Surr)	96		56 - 136		07/23/23 19:53	10
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		07/23/23 19:53	10

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-002

Lab Sample ID: 240-188427-3

Date Collected: 07/11/23 09:50

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	10	U	10	4.8	ug/L			07/23/23 20:17	10
1,1,2,2-Tetrachloroethane	10	U	10	6.0	ug/L			07/23/23 20:17	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	4.1	ug/L			07/23/23 20:17	10
1,1,2-Trichloroethane	10	U	10	4.8	ug/L			07/23/23 20:17	10
1,1-Dichloroethane	10	U	10	4.7	ug/L			07/23/23 20:17	10
1,1-Dichloroethene	10	U	10	4.9	ug/L			07/23/23 20:17	10
1,2,4-Trichlorobenzene	10	U	10	7.7	ug/L			07/23/23 20:17	10
1,2-Dibromo-3-Chloropropane	20	U	20	9.1	ug/L			07/23/23 20:17	10
Ethylene Dibromide	10	U	10	4.1	ug/L			07/23/23 20:17	10
1,2-Dichlorobenzene	10	U	10	4.8	ug/L			07/23/23 20:17	10
1,2-Dichloroethane	10	U	10	4.6	ug/L			07/23/23 20:17	10
1,2-Dichloropropane	10	U	10	4.7	ug/L			07/23/23 20:17	10
1,3-Dichlorobenzene	10	U	10	4.5	ug/L			07/23/23 20:17	10
1,4-Dichlorobenzene	10	U	10	4.1	ug/L			07/23/23 20:17	10
2-Butanone (MEK)	100	U	100	12	ug/L			07/23/23 20:17	10
2-Hexanone	100	U	100	11	ug/L			07/23/23 20:17	10
4-Methyl-2-pentanone (MIBK)	100	U	100	9.9	ug/L			07/23/23 20:17	10
Acetone	100	U	100	54	ug/L			07/23/23 20:17	10
Benzene	10	U	10	4.2	ug/L			07/23/23 20:17	10
Dichlorobromomethane	10	U	10	3.8	ug/L			07/23/23 20:17	10
Bromoform	10	U	10	7.6	ug/L			07/23/23 20:17	10
Bromomethane	10	U	10	4.2	ug/L			07/23/23 20:17	10
Carbon disulfide	10	U	10	5.9	ug/L			07/23/23 20:17	10
Carbon tetrachloride	10	U	10	2.6	ug/L			07/23/23 20:17	10
Chlorobenzene	10	U	10	3.8	ug/L			07/23/23 20:17	10
Chloroethane	10	U	10	8.3	ug/L			07/23/23 20:17	10
Chloroform	10	U	10	4.7	ug/L			07/23/23 20:17	10
Chloromethane	10	U	10	6.3	ug/L			07/23/23 20:17	10
cis-1,2-Dichloroethene	300		10	4.6	ug/L			07/23/23 20:17	10
cis-1,3-Dichloropropene	10	U	10	6.1	ug/L			07/23/23 20:17	10
Cyclohexane	10	U	10	4.8	ug/L			07/23/23 20:17	10
Chlorodibromomethane	10	U	10	3.9	ug/L			07/23/23 20:17	10
Dichlorodifluoromethane	10	U	10	3.5	ug/L			07/23/23 20:17	10
Ethylbenzene	10	U	10	4.2	ug/L			07/23/23 20:17	10
Isopropylbenzene	10	U	10	4.9	ug/L			07/23/23 20:17	10
Methyl acetate	100	U	100	17	ug/L			07/23/23 20:17	10
Methyl tert-butyl ether	10	U	10	4.7	ug/L			07/23/23 20:17	10
Methylcyclohexane	10	U	10	3.3	ug/L			07/23/23 20:17	10
Methylene Chloride	50	U	50	26	ug/L			07/23/23 20:17	10
Styrene	10	U	10	4.5	ug/L			07/23/23 20:17	10
Tetrachloroethene	10	U	10	4.4	ug/L			07/23/23 20:17	10
Toluene	10	U	10	4.4	ug/L			07/23/23 20:17	10
trans-1,2-Dichloroethene	11		10	5.1	ug/L			07/23/23 20:17	10
trans-1,3-Dichloropropene	10	U	10	6.7	ug/L			07/23/23 20:17	10
Trichloroethene	5.1	J	10	4.4	ug/L			07/23/23 20:17	10
Trichlorofluoromethane	10	U	10	4.5	ug/L			07/23/23 20:17	10
Vinyl chloride	140		10	4.5	ug/L			07/23/23 20:17	10
Xylenes, Total	20	U	20	4.2	ug/L			07/23/23 20:17	10

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		78 - 122		07/23/23 20:17	10
Dibromofluoromethane (Surr)	103		73 - 120		07/23/23 20:17	10
4-Bromofluorobenzene (Surr)	97		56 - 136		07/23/23 20:17	10
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		07/23/23 20:17	10

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-003

Lab Sample ID: 240-188427-4

Date Collected: 07/11/23 10:00

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	50	U	50	24	ug/L			07/23/23 21:06	50
1,1,2,2-Tetrachloroethane	50	U	50	30	ug/L			07/23/23 21:06	50
1,1,2-Trichloro-1,2,2-trifluoroethane	50	U	50	21	ug/L			07/23/23 21:06	50
1,1,2-Trichloroethane	50	U	50	24	ug/L			07/23/23 21:06	50
1,1-Dichloroethane	50	U	50	24	ug/L			07/23/23 21:06	50
1,1-Dichloroethene	50	U	50	25	ug/L			07/23/23 21:06	50
1,2,4-Trichlorobenzene	50	U	50	39	ug/L			07/23/23 21:06	50
1,2-Dibromo-3-Chloropropane	100	U	100	46	ug/L			07/23/23 21:06	50
Ethylene Dibromide	50	U	50	21	ug/L			07/23/23 21:06	50
1,2-Dichlorobenzene	50	U	50	24	ug/L			07/23/23 21:06	50
1,2-Dichloroethane	50	U	50	23	ug/L			07/23/23 21:06	50
1,2-Dichloropropane	50	U	50	24	ug/L			07/23/23 21:06	50
1,3-Dichlorobenzene	50	U	50	23	ug/L			07/23/23 21:06	50
1,4-Dichlorobenzene	50	U	50	21	ug/L			07/23/23 21:06	50
2-Butanone (MEK)	500	U	500	58	ug/L			07/23/23 21:06	50
2-Hexanone	500	U	500	56	ug/L			07/23/23 21:06	50
4-Methyl-2-pentanone (MIBK)	500	U	500	50	ug/L			07/23/23 21:06	50
Acetone	500	U	500	270	ug/L			07/23/23 21:06	50
Benzene	50	U	50	21	ug/L			07/23/23 21:06	50
Dichlorobromomethane	50	U	50	19	ug/L			07/23/23 21:06	50
Bromoform	50	U	50	38	ug/L			07/23/23 21:06	50
Bromomethane	50	U	50	21	ug/L			07/23/23 21:06	50
Carbon disulfide	50	U	50	30	ug/L			07/23/23 21:06	50
Carbon tetrachloride	50	U	50	13	ug/L			07/23/23 21:06	50
Chlorobenzene	50	U	50	19	ug/L			07/23/23 21:06	50
Chloroethane	50	U	50	42	ug/L			07/23/23 21:06	50
Chloroform	50	U	50	24	ug/L			07/23/23 21:06	50
Chloromethane	50	U	50	32	ug/L			07/23/23 21:06	50
cis-1,2-Dichloroethene	1600		50	23	ug/L			07/23/23 21:06	50
cis-1,3-Dichloropropene	50	U	50	31	ug/L			07/23/23 21:06	50
Cyclohexane	50	U	50	24	ug/L			07/23/23 21:06	50
Chlorodibromomethane	50	U	50	20	ug/L			07/23/23 21:06	50
Dichlorodifluoromethane	50	U	50	18	ug/L			07/23/23 21:06	50
Ethylbenzene	50	U	50	21	ug/L			07/23/23 21:06	50
Isopropylbenzene	50	U	50	25	ug/L			07/23/23 21:06	50
Methyl acetate	500	U	500	86	ug/L			07/23/23 21:06	50
Methyl tert-butyl ether	50	U	50	24	ug/L			07/23/23 21:06	50
Methylcyclohexane	50	U	50	17	ug/L			07/23/23 21:06	50
Methylene Chloride	250	U	250	130	ug/L			07/23/23 21:06	50
Styrene	50	U	50	23	ug/L			07/23/23 21:06	50
Tetrachloroethene	50	U	50	22	ug/L			07/23/23 21:06	50
Toluene	50	U	50	22	ug/L			07/23/23 21:06	50
trans-1,2-Dichloroethene	100		50	26	ug/L			07/23/23 21:06	50
trans-1,3-Dichloropropene	50	U	50	34	ug/L			07/23/23 21:06	50
Trichloroethene	50	U	50	22	ug/L			07/23/23 21:06	50
Trichlorofluoromethane	50	U	50	23	ug/L			07/23/23 21:06	50
Vinyl chloride	2100		50	23	ug/L			07/23/23 21:06	50
Xylenes, Total	100	U	100	21	ug/L			07/23/23 21:06	50

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		78 - 122		07/23/23 21:06	50
Dibromofluoromethane (Surr)	101		73 - 120		07/23/23 21:06	50
4-Bromofluorobenzene (Surr)	95		56 - 136		07/23/23 21:06	50
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		07/23/23 21:06	50

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-004

Lab Sample ID: 240-188427-5

Date Collected: 07/11/23 10:40

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	100	U	100	48	ug/L			07/23/23 21:30	100
1,1,2,2-Tetrachloroethane	100	U	100	60	ug/L			07/23/23 21:30	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	41	ug/L			07/23/23 21:30	100
1,1,2-Trichloroethane	100	U	100	48	ug/L			07/23/23 21:30	100
1,1-Dichloroethane	100	U	100	47	ug/L			07/23/23 21:30	100
1,1-Dichloroethene	100	U	100	49	ug/L			07/23/23 21:30	100
1,2,4-Trichlorobenzene	100	U	100	77	ug/L			07/23/23 21:30	100
1,2-Dibromo-3-Chloropropane	200	U	200	91	ug/L			07/23/23 21:30	100
Ethylene Dibromide	100	U	100	41	ug/L			07/23/23 21:30	100
1,2-Dichlorobenzene	100	U	100	48	ug/L			07/23/23 21:30	100
1,2-Dichloroethane	100	U	100	46	ug/L			07/23/23 21:30	100
1,2-Dichloropropane	100	U	100	47	ug/L			07/23/23 21:30	100
1,3-Dichlorobenzene	100	U	100	45	ug/L			07/23/23 21:30	100
1,4-Dichlorobenzene	100	U	100	41	ug/L			07/23/23 21:30	100
2-Butanone (MEK)	1000	U	1000	120	ug/L			07/23/23 21:30	100
2-Hexanone	1000	U	1000	110	ug/L			07/23/23 21:30	100
4-Methyl-2-pentanone (MIBK)	1000	U	1000	99	ug/L			07/23/23 21:30	100
Acetone	1000	U	1000	540	ug/L			07/23/23 21:30	100
Benzene	100	U	100	42	ug/L			07/23/23 21:30	100
Dichlorobromomethane	100	U	100	38	ug/L			07/23/23 21:30	100
Bromoform	100	U	100	76	ug/L			07/23/23 21:30	100
Bromomethane	100	U	100	42	ug/L			07/23/23 21:30	100
Carbon disulfide	100	U	100	59	ug/L			07/23/23 21:30	100
Carbon tetrachloride	100	U	100	26	ug/L			07/23/23 21:30	100
Chlorobenzene	100	U	100	38	ug/L			07/23/23 21:30	100
Chloroethane	100	U	100	83	ug/L			07/23/23 21:30	100
Chloroform	100	U	100	47	ug/L			07/23/23 21:30	100
Chloromethane	100	U	100	63	ug/L			07/23/23 21:30	100
cis-1,2-Dichloroethene	1400		100	46	ug/L			07/23/23 21:30	100
cis-1,3-Dichloropropene	100	U	100	61	ug/L			07/23/23 21:30	100
Cyclohexane	100	U	100	48	ug/L			07/23/23 21:30	100
Chlorodibromomethane	100	U	100	39	ug/L			07/23/23 21:30	100
Dichlorodifluoromethane	100	U	100	35	ug/L			07/23/23 21:30	100
Ethylbenzene	100	U	100	42	ug/L			07/23/23 21:30	100
Isopropylbenzene	100	U	100	49	ug/L			07/23/23 21:30	100
Methyl acetate	1000	U	1000	170	ug/L			07/23/23 21:30	100
Methyl tert-butyl ether	100	U	100	47	ug/L			07/23/23 21:30	100
Methylcyclohexane	100	U	100	33	ug/L			07/23/23 21:30	100
Methylene Chloride	500	U	500	260	ug/L			07/23/23 21:30	100
Styrene	100	U	100	45	ug/L			07/23/23 21:30	100
Tetrachloroethene	100	U	100	44	ug/L			07/23/23 21:30	100
Toluene	100	U	100	44	ug/L			07/23/23 21:30	100
trans-1,2-Dichloroethene	100	U	100	51	ug/L			07/23/23 21:30	100
trans-1,3-Dichloropropene	100	U	100	67	ug/L			07/23/23 21:30	100
Trichloroethene	100	U	100	44	ug/L			07/23/23 21:30	100
Trichlorofluoromethane	100	U	100	45	ug/L			07/23/23 21:30	100
Vinyl chloride	2100		100	45	ug/L			07/23/23 21:30	100
Xylenes, Total	200	U	200	42	ug/L			07/23/23 21:30	100

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	96		78 - 122		07/23/23 21:30	100
<i>Dibromofluoromethane (Surr)</i>	103		73 - 120		07/23/23 21:30	100
<i>4-Bromofluorobenzene (Surr)</i>	97		56 - 136		07/23/23 21:30	100
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		62 - 137		07/23/23 21:30	100

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-005

Lab Sample ID: 240-188427-6

Date Collected: 07/11/23 09:35

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 16:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 16:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 16:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 16:41	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 16:41	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 16:41	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 16:41	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 16:41	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 16:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 16:41	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 16:41	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 16:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 16:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 16:41	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 16:41	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 16:41	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 16:41	1
Acetone	10	U	10	5.4	ug/L			07/23/23 16:41	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 16:41	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 16:41	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 16:41	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 16:41	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 16:41	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 16:41	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 16:41	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 16:41	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 16:41	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 16:41	1
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L			07/23/23 16:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 16:41	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 16:41	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 16:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 16:41	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 16:41	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 16:41	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 16:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 16:41	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 16:41	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 16:41	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 16:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 16:41	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 16:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 16:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 16:41	1
Trichloroethene	51		1.0	0.44	ug/L			07/23/23 16:41	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 16:41	1
Vinyl chloride	3.3		1.0	0.45	ug/L			07/23/23 16:41	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 16:41	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		78 - 122		07/23/23 16:41	1
Dibromofluoromethane (Surr)	106		73 - 120		07/23/23 16:41	1
4-Bromofluorobenzene (Surr)	101		56 - 136		07/23/23 16:41	1
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		07/23/23 16:41	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-006

Lab Sample ID: 240-188427-7

Date Collected: 07/11/23 10:35

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	20	9.6	ug/L			07/23/23 20:42	20
1,1,2,2-Tetrachloroethane	20	U	20	12	ug/L			07/23/23 20:42	20
1,1,2-Trichloro-1,2,2-trifluoroethane	20	U	20	8.2	ug/L			07/23/23 20:42	20
1,1,2-Trichloroethane	20	U	20	9.6	ug/L			07/23/23 20:42	20
1,1-Dichloroethane	20	U	20	9.4	ug/L			07/23/23 20:42	20
1,1-Dichloroethene	20	U	20	9.8	ug/L			07/23/23 20:42	20
1,2,4-Trichlorobenzene	20	U	20	15	ug/L			07/23/23 20:42	20
1,2-Dibromo-3-Chloropropane	40	U	40	18	ug/L			07/23/23 20:42	20
Ethylene Dibromide	20	U	20	8.2	ug/L			07/23/23 20:42	20
1,2-Dichlorobenzene	20	U	20	9.6	ug/L			07/23/23 20:42	20
1,2-Dichloroethane	20	U	20	9.1	ug/L			07/23/23 20:42	20
1,2-Dichloropropane	20	U	20	9.4	ug/L			07/23/23 20:42	20
1,3-Dichlorobenzene	20	U	20	9.0	ug/L			07/23/23 20:42	20
1,4-Dichlorobenzene	20	U	20	8.2	ug/L			07/23/23 20:42	20
2-Butanone (MEK)	200	U	200	23	ug/L			07/23/23 20:42	20
2-Hexanone	200	U	200	22	ug/L			07/23/23 20:42	20
4-Methyl-2-pentanone (MIBK)	200	U	200	20	ug/L			07/23/23 20:42	20
Acetone	200	U	200	110	ug/L			07/23/23 20:42	20
Benzene	20	U	20	8.4	ug/L			07/23/23 20:42	20
Dichlorobromomethane	20	U	20	7.5	ug/L			07/23/23 20:42	20
Bromoform	20	U	20	15	ug/L			07/23/23 20:42	20
Bromomethane	20	U	20	8.4	ug/L			07/23/23 20:42	20
Carbon disulfide	20	U	20	12	ug/L			07/23/23 20:42	20
Carbon tetrachloride	20	U	20	5.2	ug/L			07/23/23 20:42	20
Chlorobenzene	20	U	20	7.6	ug/L			07/23/23 20:42	20
Chloroethane	20	U	20	17	ug/L			07/23/23 20:42	20
Chloroform	20	U	20	9.4	ug/L			07/23/23 20:42	20
Chloromethane	20	U	20	13	ug/L			07/23/23 20:42	20
cis-1,2-Dichloroethene	460		20	9.2	ug/L			07/23/23 20:42	20
cis-1,3-Dichloropropene	20	U	20	12	ug/L			07/23/23 20:42	20
Cyclohexane	20	U	20	9.6	ug/L			07/23/23 20:42	20
Chlorodibromomethane	20	U	20	7.8	ug/L			07/23/23 20:42	20
Dichlorodifluoromethane	20	U	20	7.0	ug/L			07/23/23 20:42	20
Ethylbenzene	20	U	20	8.4	ug/L			07/23/23 20:42	20
Isopropylbenzene	20	U	20	9.8	ug/L			07/23/23 20:42	20
Methyl acetate	200	U	200	34	ug/L			07/23/23 20:42	20
Methyl tert-butyl ether	20	U	20	9.4	ug/L			07/23/23 20:42	20
Methylcyclohexane	20	U	20	6.6	ug/L			07/23/23 20:42	20
Methylene Chloride	100	U	100	52	ug/L			07/23/23 20:42	20
Styrene	20	U	20	9.0	ug/L			07/23/23 20:42	20
Tetrachloroethene	20	U	20	8.8	ug/L			07/23/23 20:42	20
Toluene	20	U	20	8.8	ug/L			07/23/23 20:42	20
trans-1,2-Dichloroethene	14	J	20	10	ug/L			07/23/23 20:42	20
trans-1,3-Dichloropropene	20	U	20	13	ug/L			07/23/23 20:42	20
Trichloroethene	20	U	20	8.8	ug/L			07/23/23 20:42	20
Trichlorofluoromethane	20	U	20	9.0	ug/L			07/23/23 20:42	20
Vinyl chloride	1100		40	18	ug/L			07/24/23 22:27	40
Xylenes, Total	40	U	40	8.4	ug/L			07/23/23 20:42	20

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		78 - 122		07/23/23 20:42	20
Toluene-d8 (Surr)	98		78 - 122		07/24/23 22:27	40
Dibromofluoromethane (Surr)	99		73 - 120		07/23/23 20:42	20
Dibromofluoromethane (Surr)	100		73 - 120		07/24/23 22:27	40
4-Bromofluorobenzene (Surr)	95		56 - 136		07/23/23 20:42	20
4-Bromofluorobenzene (Surr)	97		56 - 136		07/24/23 22:27	40
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		07/23/23 20:42	20
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		07/24/23 22:27	40

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-007

Lab Sample ID: 240-188427-8

Date Collected: 07/11/23 13:05

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 17:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 17:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:05	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 17:05	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 17:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 17:05	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 17:05	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 17:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 17:05	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 17:05	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 17:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 17:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 17:05	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 17:05	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 17:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 17:05	1
Acetone	10	U	10	5.4	ug/L			07/23/23 17:05	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:05	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 17:05	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 17:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 17:05	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 17:05	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 17:05	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 17:05	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 17:05	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 17:05	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 17:05	1
cis-1,2-Dichloroethene	0.91	J	1.0	0.46	ug/L			07/23/23 17:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 17:05	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 17:05	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 17:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 17:05	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:05	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 17:05	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 17:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 17:05	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 17:05	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 17:05	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 17:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:05	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 17:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 17:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 17:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:05	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 17:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/23/23 17:05	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 17:05	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	100		78 - 122		07/23/23 17:05	1
<i>Dibromofluoromethane (Surr)</i>	105		73 - 120		07/23/23 17:05	1
<i>4-Bromofluorobenzene (Surr)</i>	103		56 - 136		07/23/23 17:05	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	108		62 - 137		07/23/23 17:05	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-008

Lab Sample ID: 240-188427-9

Date Collected: 07/11/23 13:10

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	3.0	ug/L			07/23/23 19:28	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	2.1	ug/L			07/23/23 19:28	5
1,1,2-Trichloroethane	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
1,1-Dichloroethane	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
1,1-Dichloroethene	5.0	U	5.0	2.5	ug/L			07/23/23 19:28	5
1,2,4-Trichlorobenzene	5.0	U	5.0	3.9	ug/L			07/23/23 19:28	5
1,2-Dibromo-3-Chloropropane	10	U	10	4.6	ug/L			07/23/23 19:28	5
Ethylene Dibromide	5.0	U	5.0	2.1	ug/L			07/23/23 19:28	5
1,2-Dichlorobenzene	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
1,2-Dichloroethane	5.0	U	5.0	2.3	ug/L			07/23/23 19:28	5
1,2-Dichloropropane	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
1,3-Dichlorobenzene	5.0	U	5.0	2.3	ug/L			07/23/23 19:28	5
1,4-Dichlorobenzene	5.0	U	5.0	2.1	ug/L			07/23/23 19:28	5
2-Butanone (MEK)	50	U	50	5.8	ug/L			07/23/23 19:28	5
2-Hexanone	50	U	50	5.6	ug/L			07/23/23 19:28	5
4-Methyl-2-pentanone (MIBK)	50	U	50	5.0	ug/L			07/23/23 19:28	5
Acetone	50	U	50	27	ug/L			07/23/23 19:28	5
Benzene	4.0	J	5.0	2.1	ug/L			07/23/23 19:28	5
Dichlorobromomethane	5.0	U	5.0	1.9	ug/L			07/23/23 19:28	5
Bromoform	5.0	U	5.0	3.8	ug/L			07/23/23 19:28	5
Bromomethane	5.0	U	5.0	2.1	ug/L			07/23/23 19:28	5
Carbon disulfide	5.0	U	5.0	3.0	ug/L			07/23/23 19:28	5
Carbon tetrachloride	5.0	U	5.0	1.3	ug/L			07/23/23 19:28	5
Chlorobenzene	5.0	U	5.0	1.9	ug/L			07/23/23 19:28	5
Chloroethane	5.0	U	5.0	4.2	ug/L			07/23/23 19:28	5
Chloroform	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
Chloromethane	5.0	U	5.0	3.2	ug/L			07/23/23 19:28	5
cis-1,2-Dichloroethene	9.9		5.0	2.3	ug/L			07/23/23 19:28	5
cis-1,3-Dichloropropene	5.0	U	5.0	3.1	ug/L			07/23/23 19:28	5
Cyclohexane	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
Chlorodibromomethane	5.0	U	5.0	2.0	ug/L			07/23/23 19:28	5
Dichlorodifluoromethane	5.0	U	5.0	1.8	ug/L			07/23/23 19:28	5
Ethylbenzene	5.0	U	5.0	2.1	ug/L			07/23/23 19:28	5
Isopropylbenzene	5.0	U	5.0	2.5	ug/L			07/23/23 19:28	5
Methyl acetate	50	U	50	8.6	ug/L			07/23/23 19:28	5
Methyl tert-butyl ether	5.0	U	5.0	2.4	ug/L			07/23/23 19:28	5
Methylcyclohexane	5.0	U	5.0	1.7	ug/L			07/23/23 19:28	5
Methylene Chloride	25	U	25	13	ug/L			07/23/23 19:28	5
Styrene	5.0	U	5.0	2.3	ug/L			07/23/23 19:28	5
Tetrachloroethene	5.0	U	5.0	2.2	ug/L			07/23/23 19:28	5
Toluene	5.0	U	5.0	2.2	ug/L			07/23/23 19:28	5
trans-1,2-Dichloroethene	5.0	U	5.0	2.6	ug/L			07/23/23 19:28	5
trans-1,3-Dichloropropene	5.0	U	5.0	3.4	ug/L			07/23/23 19:28	5
Trichloroethene	5.0	U	5.0	2.2	ug/L			07/23/23 19:28	5
Trichlorofluoromethane	5.0	U	5.0	2.3	ug/L			07/23/23 19:28	5
Vinyl chloride	290		10	4.5	ug/L			07/24/23 22:03	10
Xylenes, Total	10	U	10	2.1	ug/L			07/23/23 19:28	5

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		78 - 122		07/23/23 19:28	5
Toluene-d8 (Surr)	98		78 - 122		07/24/23 22:03	10
Dibromofluoromethane (Surr)	102		73 - 120		07/23/23 19:28	5
Dibromofluoromethane (Surr)	101		73 - 120		07/24/23 22:03	10
4-Bromofluorobenzene (Surr)	98		56 - 136		07/23/23 19:28	5
4-Bromofluorobenzene (Surr)	98		56 - 136		07/24/23 22:03	10
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		07/23/23 19:28	5
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		07/24/23 22:03	10

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-009

Lab Sample ID: 240-188427-10

Date Collected: 07/11/23 12:30

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:29	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 17:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 17:29	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:29	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 17:29	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 17:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 17:29	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 17:29	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 17:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 17:29	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 17:29	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 17:29	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 17:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 17:29	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 17:29	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 17:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 17:29	1
Acetone	10	U	10	5.4	ug/L			07/23/23 17:29	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:29	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 17:29	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 17:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 17:29	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 17:29	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 17:29	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 17:29	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 17:29	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 17:29	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 17:29	1
cis-1,2-Dichloroethene	1.4		1.0	0.46	ug/L			07/23/23 17:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 17:29	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 17:29	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 17:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 17:29	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:29	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 17:29	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 17:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 17:29	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 17:29	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 17:29	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 17:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:29	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 17:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 17:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 17:29	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:29	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 17:29	1
Vinyl chloride	3.0		1.0	0.45	ug/L			07/23/23 17:29	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 17:29	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 122		07/23/23 17:29	1
Dibromofluoromethane (Surr)	104		73 - 120		07/23/23 17:29	1
4-Bromofluorobenzene (Surr)	100		56 - 136		07/23/23 17:29	1
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		07/23/23 17:29	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-010

Lab Sample ID: 240-188427-11

Date Collected: 07/11/23 13:00

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:53	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 17:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 17:53	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 17:53	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 17:53	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 17:53	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 17:53	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 17:53	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 17:53	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 17:53	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 17:53	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 17:53	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 17:53	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 17:53	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 17:53	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 17:53	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 17:53	1
Acetone	10	U	10	5.4	ug/L			07/23/23 17:53	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:53	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 17:53	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 17:53	1
Bromomethane	0.54	J	1.0	0.42	ug/L			07/23/23 17:53	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 17:53	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 17:53	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 17:53	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 17:53	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 17:53	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 17:53	1
cis-1,2-Dichloroethene	9.6		1.0	0.46	ug/L			07/23/23 17:53	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 17:53	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 17:53	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 17:53	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 17:53	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 17:53	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 17:53	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 17:53	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 17:53	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 17:53	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 17:53	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 17:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:53	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 17:53	1
trans-1,2-Dichloroethene	0.87	J	1.0	0.51	ug/L			07/23/23 17:53	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 17:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 17:53	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 17:53	1
Vinyl chloride	1.4		1.0	0.45	ug/L			07/23/23 17:53	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 17:53	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 122		07/23/23 17:53	1
Dibromofluoromethane (Surr)	105		73 - 120		07/23/23 17:53	1
4-Bromofluorobenzene (Surr)	100		56 - 136		07/23/23 17:53	1
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		07/23/23 17:53	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-011

Lab Sample ID: 240-188427-12

Date Collected: 07/11/23 14:20

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 18:16	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 18:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 18:16	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 18:16	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 18:16	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 18:16	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 18:16	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 18:16	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 18:16	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 18:16	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 18:16	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 18:16	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 18:16	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 18:16	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 18:16	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 18:16	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 18:16	1
Acetone	10	U	10	5.4	ug/L			07/23/23 18:16	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 18:16	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 18:16	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 18:16	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 18:16	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 18:16	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 18:16	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 18:16	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 18:16	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 18:16	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 18:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/23/23 18:16	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 18:16	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 18:16	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 18:16	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 18:16	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 18:16	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 18:16	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 18:16	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 18:16	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 18:16	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 18:16	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 18:16	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 18:16	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 18:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 18:16	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 18:16	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 18:16	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 18:16	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/23/23 18:16	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 18:16	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		78 - 122		07/23/23 18:16	1
Dibromofluoromethane (Surr)	105		73 - 120		07/23/23 18:16	1
4-Bromofluorobenzene (Surr)	100		56 - 136		07/23/23 18:16	1
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		07/23/23 18:16	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071123-DR-012

Lab Sample ID: 240-188427-13

Date Collected: 07/11/23 14:35

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 18:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 18:40	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 18:40	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 18:40	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 18:40	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 18:40	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 18:40	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 18:40	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 18:40	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 18:40	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 18:40	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 18:40	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 18:40	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 18:40	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 18:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 18:40	1
Acetone	10	U	10	5.4	ug/L			07/23/23 18:40	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 18:40	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 18:40	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 18:40	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 18:40	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 18:40	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 18:40	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 18:40	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 18:40	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 18:40	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 18:40	1
cis-1,2-Dichloroethene	52		1.0	0.46	ug/L			07/23/23 18:40	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 18:40	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 18:40	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 18:40	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 18:40	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 18:40	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 18:40	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 18:40	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 18:40	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 18:40	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 18:40	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 18:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 18:40	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 18:40	1
trans-1,2-Dichloroethene	4.0		1.0	0.51	ug/L			07/23/23 18:40	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 18:40	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 18:40	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 18:40	1
Vinyl chloride	51		1.0	0.45	ug/L			07/23/23 18:40	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 18:40	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		78 - 122		07/23/23 18:40	1
Dibromofluoromethane (Surr)	103		73 - 120		07/23/23 18:40	1
4-Bromofluorobenzene (Surr)	100		56 - 136		07/23/23 18:40	1
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		07/23/23 18:40	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-013

Lab Sample ID: 240-188427-14

Date Collected: 07/12/23 08:20

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 13:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 13:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 13:43	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 13:43	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 13:43	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 13:43	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 13:43	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 13:43	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 13:43	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 13:43	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 13:43	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 13:43	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 13:43	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 13:43	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 13:43	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 13:43	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 13:43	1
Acetone	10	U	10	5.4	ug/L			07/24/23 13:43	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 13:43	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 13:43	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 13:43	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 13:43	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 13:43	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 13:43	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 13:43	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 13:43	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 13:43	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 13:43	1
cis-1,2-Dichloroethene	5.3		1.0	0.46	ug/L			07/24/23 13:43	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 13:43	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 13:43	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 13:43	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 13:43	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 13:43	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 13:43	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 13:43	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 13:43	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 13:43	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 13:43	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 13:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 13:43	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 13:43	1
trans-1,2-Dichloroethene	0.69	J	1.0	0.51	ug/L			07/24/23 13:43	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 13:43	1
Trichloroethene	0.59	J	1.0	0.44	ug/L			07/24/23 13:43	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 13:43	1
Vinyl chloride	0.97	J	1.0	0.45	ug/L			07/24/23 13:43	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 13:43	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		78 - 122		07/24/23 13:43	1
<i>Dibromofluoromethane (Surr)</i>	89		73 - 120		07/24/23 13:43	1
<i>4-Bromofluorobenzene (Surr)</i>	93		56 - 136		07/24/23 13:43	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	87		62 - 137		07/24/23 13:43	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-014

Lab Sample ID: 240-188427-15

Date Collected: 07/12/23 09:25

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	11		1.0	0.48	ug/L			07/24/23 14:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 14:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 14:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:09	1
1,1-Dichloroethane	1.5		1.0	0.47	ug/L			07/24/23 14:09	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 14:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 14:09	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 14:09	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 14:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 14:09	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 14:09	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 14:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 14:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 14:09	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 14:09	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 14:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 14:09	1
Acetone	10	U	10	5.4	ug/L			07/24/23 14:09	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:09	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 14:09	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 14:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 14:09	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 14:09	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 14:09	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 14:09	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 14:09	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 14:09	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 14:09	1
cis-1,2-Dichloroethene	0.62	J	1.0	0.46	ug/L			07/24/23 14:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 14:09	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 14:09	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 14:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 14:09	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:09	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 14:09	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 14:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 14:09	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 14:09	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 14:09	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 14:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:09	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 14:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 14:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 14:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:09	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 14:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 14:09	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 14:09	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		78 - 122		07/24/23 14:09	1
Dibromofluoromethane (Surr)	90		73 - 120		07/24/23 14:09	1
4-Bromofluorobenzene (Surr)	91		56 - 136		07/24/23 14:09	1
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		07/24/23 14:09	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-015

Lab Sample ID: 240-188427-16

Date Collected: 07/12/23 11:05

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:35	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 14:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 14:35	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:35	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 14:35	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 14:35	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 14:35	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 14:35	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 14:35	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 14:35	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 14:35	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 14:35	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 14:35	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 14:35	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 14:35	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 14:35	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 14:35	1
Acetone	10	U	10	5.4	ug/L			07/24/23 14:35	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:35	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 14:35	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 14:35	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 14:35	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 14:35	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 14:35	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 14:35	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 14:35	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 14:35	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 14:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 14:35	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 14:35	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 14:35	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 14:35	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 14:35	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:35	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 14:35	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 14:35	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 14:35	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 14:35	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 14:35	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 14:35	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:35	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 14:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 14:35	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 14:35	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:35	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 14:35	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 14:35	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 14:35	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		78 - 122		07/24/23 14:35	1
<i>Dibromofluoromethane (Surr)</i>	90		73 - 120		07/24/23 14:35	1
<i>4-Bromofluorobenzene (Surr)</i>	92		56 - 136		07/24/23 14:35	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	86		62 - 137		07/24/23 14:35	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-016

Lab Sample ID: 240-188427-17

Date Collected: 07/12/23 12:25

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/25/23 13:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/25/23 13:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/25/23 13:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/25/23 13:34	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/25/23 13:34	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/25/23 13:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/25/23 13:34	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/25/23 13:34	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/25/23 13:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/25/23 13:34	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/25/23 13:34	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/25/23 13:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/25/23 13:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/25/23 13:34	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/25/23 13:34	1
2-Hexanone	10	U	10	1.1	ug/L			07/25/23 13:34	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/25/23 13:34	1
Acetone	10	U	10	5.4	ug/L			07/25/23 13:34	1
Benzene	3.8		1.0	0.42	ug/L			07/25/23 13:34	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/25/23 13:34	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/25/23 13:34	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/25/23 13:34	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/25/23 13:34	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/25/23 13:34	1
Chlorobenzene	7.0		1.0	0.38	ug/L			07/25/23 13:34	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/25/23 13:34	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/25/23 13:34	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/25/23 13:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/25/23 13:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/25/23 13:34	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/25/23 13:34	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/25/23 13:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/25/23 13:34	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/25/23 13:34	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/25/23 13:34	1
Methyl acetate	10	U	10	1.7	ug/L			07/25/23 13:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/25/23 13:34	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/25/23 13:34	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/25/23 13:34	1
Styrene	1.0	U	1.0	0.45	ug/L			07/25/23 13:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/25/23 13:34	1
Toluene	1.0	U	1.0	0.44	ug/L			07/25/23 13:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/25/23 13:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/25/23 13:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/25/23 13:34	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/25/23 13:34	1
Vinyl chloride	5.8		1.0	0.45	ug/L			07/25/23 13:34	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/25/23 13:34	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 122		07/25/23 13:34	1
Dibromofluoromethane (Surr)	90		73 - 120		07/25/23 13:34	1
4-Bromofluorobenzene (Surr)	93		56 - 136		07/25/23 13:34	1
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		07/25/23 13:34	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-017

Lab Sample ID: 240-188427-18

Date Collected: 07/12/23 10:30

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 15:26	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 15:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 15:26	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 15:26	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 15:26	1
1,1-Dichloroethene	7.0		1.0	0.49	ug/L			07/24/23 15:26	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 15:26	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 15:26	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 15:26	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 15:26	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 15:26	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 15:26	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 15:26	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 15:26	1
2-Butanone (MEK)	10000	U	10000	1200	ug/L			07/25/23 14:00	1000
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 15:26	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 15:26	1
Acetone	10	U	10	5.4	ug/L			07/24/23 15:26	1
Benzene	34		1.0	0.42	ug/L			07/24/23 15:26	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 15:26	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 15:26	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 15:26	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 15:26	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 15:26	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 15:26	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 15:26	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 15:26	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 15:26	1
cis-1,2-Dichloroethene	25000		1000	460	ug/L			07/25/23 14:00	1000
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 15:26	1
Cyclohexane	2.2		1.0	0.48	ug/L			07/24/23 15:26	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 15:26	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 15:26	1
Ethylbenzene	11		1.0	0.42	ug/L			07/24/23 15:26	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 15:26	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 15:26	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 15:26	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 15:26	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 15:26	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 15:26	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 15:26	1
Toluene	1000	U	1000	440	ug/L			07/25/23 14:00	1000
trans-1,2-Dichloroethene	24		1.0	0.51	ug/L			07/24/23 15:26	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 15:26	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 15:26	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 15:26	1
Vinyl chloride	150000		5000	2300	ug/L			07/25/23 18:15	5000
Xylenes, Total	55		2.0	0.42	ug/L			07/24/23 15:26	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 122		07/24/23 15:26	1
Toluene-d8 (Surr)	98		78 - 122		07/25/23 14:00	1000
Toluene-d8 (Surr)	99		78 - 122		07/25/23 18:15	5000
Dibromofluoromethane (Surr)	93		73 - 120		07/24/23 15:26	1
Dibromofluoromethane (Surr)	90		73 - 120		07/25/23 14:00	1000
Dibromofluoromethane (Surr)	93		73 - 120		07/25/23 18:15	5000
4-Bromofluorobenzene (Surr)	93		56 - 136		07/24/23 15:26	1
4-Bromofluorobenzene (Surr)	93		56 - 136		07/25/23 14:00	1000
4-Bromofluorobenzene (Surr)	94		56 - 136		07/25/23 18:15	5000
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		07/24/23 15:26	1
1,2-Dichloroethane-d4 (Surr)	88		62 - 137		07/25/23 14:00	1000
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		07/25/23 18:15	5000

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-018

Lab Sample ID: 240-188427-19

Date Collected: 07/12/23 10:20

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.0	U	2.0	0.96	ug/L			07/24/23 15:51	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	1.2	ug/L			07/24/23 15:51	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			07/24/23 15:51	2
1,1,2-Trichloroethane	2.0	U	2.0	0.96	ug/L			07/24/23 15:51	2
1,1-Dichloroethane	2.0	U	2.0	0.94	ug/L			07/24/23 15:51	2
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			07/24/23 15:51	2
1,2,4-Trichlorobenzene	2.0	U	2.0	1.5	ug/L			07/24/23 15:51	2
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.8	ug/L			07/24/23 15:51	2
Ethylene Dibromide	2.0	U	2.0	0.82	ug/L			07/24/23 15:51	2
1,2-Dichlorobenzene	2.0	U	2.0	0.96	ug/L			07/24/23 15:51	2
1,2-Dichloroethane	2.0	U	2.0	0.91	ug/L			07/24/23 15:51	2
1,2-Dichloropropane	2.0	U	2.0	0.94	ug/L			07/24/23 15:51	2
1,3-Dichlorobenzene	2.0	U	2.0	0.90	ug/L			07/24/23 15:51	2
1,4-Dichlorobenzene	2.0	U	2.0	0.82	ug/L			07/24/23 15:51	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			07/24/23 15:51	2
2-Hexanone	20	U	20	2.2	ug/L			07/24/23 15:51	2
4-Methyl-2-pentanone (MIBK)	20	U	20	2.0	ug/L			07/24/23 15:51	2
Acetone	20	U	20	11	ug/L			07/24/23 15:51	2
Benzene	5.7		2.0	0.84	ug/L			07/24/23 15:51	2
Dichlorobromomethane	2.0	U	2.0	0.75	ug/L			07/24/23 15:51	2
Bromoform	2.0	U	2.0	1.5	ug/L			07/24/23 15:51	2
Bromomethane	2.0	U	2.0	0.84	ug/L			07/24/23 15:51	2
Carbon disulfide	2.0	U	2.0	1.2	ug/L			07/24/23 15:51	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			07/24/23 15:51	2
Chlorobenzene	2.0	U	2.0	0.76	ug/L			07/24/23 15:51	2
Chloroethane	2.0	U	2.0	1.7	ug/L			07/24/23 15:51	2
Chloroform	2.0	U	2.0	0.94	ug/L			07/24/23 15:51	2
Chloromethane	2.0	U	2.0	1.3	ug/L			07/24/23 15:51	2
cis-1,2-Dichloroethene	2.1		2.0	0.92	ug/L			07/25/23 14:25	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			07/24/23 15:51	2
Cyclohexane	13		2.0	0.96	ug/L			07/24/23 15:51	2
Chlorodibromomethane	2.0	U	2.0	0.78	ug/L			07/24/23 15:51	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			07/24/23 15:51	2
Ethylbenzene	17		2.0	0.84	ug/L			07/24/23 15:51	2
Isopropylbenzene	4.4		2.0	0.98	ug/L			07/24/23 15:51	2
Methyl acetate	20	U	20	3.4	ug/L			07/24/23 15:51	2
Methyl tert-butyl ether	2.0	U	2.0	0.94	ug/L			07/24/23 15:51	2
Methylcyclohexane	1.9 J		2.0	0.66	ug/L			07/24/23 15:51	2
Methylene Chloride	10	U	10	5.2	ug/L			07/24/23 15:51	2
Styrene	2.0	U	2.0	0.90	ug/L			07/24/23 15:51	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			07/24/23 15:51	2
Toluene	14		2.0	0.88	ug/L			07/25/23 14:25	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.0	ug/L			07/24/23 15:51	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			07/24/23 15:51	2
Trichloroethene	2.0	U	2.0	0.88	ug/L			07/24/23 15:51	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			07/24/23 15:51	2
Vinyl chloride	43		2.0	0.90	ug/L			07/25/23 14:25	2
Xylenes, Total	71		4.0	0.84	ug/L			07/24/23 15:51	2

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		78 - 122		07/24/23 15:51	2
Toluene-d8 (Surr)	98		78 - 122		07/25/23 14:25	2
Dibromofluoromethane (Surr)	91		73 - 120		07/24/23 15:51	2
Dibromofluoromethane (Surr)	91		73 - 120		07/25/23 14:25	2
4-Bromofluorobenzene (Surr)	94		56 - 136		07/24/23 15:51	2
4-Bromofluorobenzene (Surr)	94		56 - 136		07/25/23 14:25	2
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		07/24/23 15:51	2
1,2-Dichloroethane-d4 (Surr)	89		62 - 137		07/25/23 14:25	2

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-019

Lab Sample ID: 240-188427-20

Date Collected: 07/12/23 11:10

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 18:14	1000
1,1,2,2-Tetrachloroethane	1000	U	1000	600	ug/L			07/24/23 18:14	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	410	ug/L			07/24/23 18:14	1000
1,1,2-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 18:14	1000
1,1-Dichloroethane	1000	U	1000	470	ug/L			07/24/23 18:14	1000
1,1-Dichloroethene	1000	U	1000	490	ug/L			07/24/23 18:14	1000
1,2,4-Trichlorobenzene	1000	U	1000	770	ug/L			07/24/23 18:14	1000
1,2-Dibromo-3-Chloropropane	2000	U	2000	910	ug/L			07/24/23 18:14	1000
Ethylene Dibromide	1000	U	1000	410	ug/L			07/24/23 18:14	1000
1,2-Dichlorobenzene	1000	U	1000	480	ug/L			07/24/23 18:14	1000
1,2-Dichloroethane	1000	U	1000	460	ug/L			07/24/23 18:14	1000
1,2-Dichloropropane	1000	U	1000	470	ug/L			07/24/23 18:14	1000
1,3-Dichlorobenzene	1000	U	1000	450	ug/L			07/24/23 18:14	1000
1,4-Dichlorobenzene	1000	U	1000	410	ug/L			07/24/23 18:14	1000
2-Butanone (MEK)	10000	U	10000	1200	ug/L			07/24/23 18:14	1000
2-Hexanone	10000	U	10000	1100	ug/L			07/24/23 18:14	1000
4-Methyl-2-pentanone (MIBK)	10000	U	10000	990	ug/L			07/24/23 18:14	1000
Acetone	10000	U	10000	5400	ug/L			07/24/23 18:14	1000
Benzene	1000	U	1000	420	ug/L			07/24/23 18:14	1000
Dichlorobromomethane	1000	U	1000	380	ug/L			07/24/23 18:14	1000
Bromoform	1000	U	1000	760	ug/L			07/24/23 18:14	1000
Bromomethane	1000	U	1000	420	ug/L			07/24/23 18:14	1000
Carbon disulfide	1000	U	1000	590	ug/L			07/24/23 18:14	1000
Carbon tetrachloride	1000	U	1000	260	ug/L			07/24/23 18:14	1000
Chlorobenzene	1000	U	1000	380	ug/L			07/24/23 18:14	1000
Chloroethane	1000	U	1000	830	ug/L			07/24/23 18:14	1000
Chloroform	1000	U	1000	470	ug/L			07/24/23 18:14	1000
Chloromethane	1000	U	1000	630	ug/L			07/24/23 18:14	1000
cis-1,2-Dichloroethene	40000		1000	460	ug/L			07/24/23 18:14	1000
cis-1,3-Dichloropropene	1000	U	1000	610	ug/L			07/24/23 18:14	1000
Cyclohexane	1000	U	1000	480	ug/L			07/24/23 18:14	1000
Chlorodibromomethane	1000	U	1000	390	ug/L			07/24/23 18:14	1000
Dichlorodifluoromethane	1000	U	1000	350	ug/L			07/24/23 18:14	1000
Ethylbenzene	1000	U	1000	420	ug/L			07/24/23 18:14	1000
Isopropylbenzene	1000	U	1000	490	ug/L			07/24/23 18:14	1000
Methyl acetate	10000	U	10000	1700	ug/L			07/24/23 18:14	1000
Methyl tert-butyl ether	1000	U	1000	470	ug/L			07/24/23 18:14	1000
Methylcyclohexane	1000	U	1000	330	ug/L			07/24/23 18:14	1000
Methylene Chloride	5000	U	5000	2600	ug/L			07/24/23 18:14	1000
Styrene	1000	U	1000	450	ug/L			07/24/23 18:14	1000
Tetrachloroethene	1000	U	1000	440	ug/L			07/24/23 18:14	1000
Toluene	1000	U	1000	440	ug/L			07/24/23 18:14	1000
trans-1,2-Dichloroethene	1000	U	1000	510	ug/L			07/24/23 18:14	1000
trans-1,3-Dichloropropene	1000	U	1000	670	ug/L			07/24/23 18:14	1000
Trichloroethene	1000	U	1000	440	ug/L			07/24/23 18:14	1000
Trichlorofluoromethane	1000	U	1000	450	ug/L			07/24/23 18:14	1000
Vinyl chloride	26000		1000	450	ug/L			07/24/23 18:14	1000
Xylenes, Total	2000	U	2000	420	ug/L			07/24/23 18:14	1000

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		78 - 122		07/24/23 18:14	1000
Dibromofluoromethane (Surr)	115		73 - 120		07/24/23 18:14	1000
4-Bromofluorobenzene (Surr)	85		56 - 136		07/24/23 18:14	1000
1,2-Dichloroethane-d4 (Surr)	122		62 - 137		07/24/23 18:14	1000

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-020

Lab Sample ID: 240-188427-21

Date Collected: 07/12/23 11:15

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 18:37	1000
1,1,2,2-Tetrachloroethane	1000	U	1000	600	ug/L			07/24/23 18:37	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	410	ug/L			07/24/23 18:37	1000
1,1,2-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 18:37	1000
1,1-Dichloroethane	1000	U	1000	470	ug/L			07/24/23 18:37	1000
1,1-Dichloroethene	1000	U	1000	490	ug/L			07/24/23 18:37	1000
1,2,4-Trichlorobenzene	1000	U	1000	770	ug/L			07/24/23 18:37	1000
1,2-Dibromo-3-Chloropropane	2000	U	2000	910	ug/L			07/24/23 18:37	1000
Ethylene Dibromide	1000	U	1000	410	ug/L			07/24/23 18:37	1000
1,2-Dichlorobenzene	1000	U	1000	480	ug/L			07/24/23 18:37	1000
1,2-Dichloroethane	1000	U	1000	460	ug/L			07/24/23 18:37	1000
1,2-Dichloropropane	1000	U	1000	470	ug/L			07/24/23 18:37	1000
1,3-Dichlorobenzene	1000	U	1000	450	ug/L			07/24/23 18:37	1000
1,4-Dichlorobenzene	1000	U	1000	410	ug/L			07/24/23 18:37	1000
2-Butanone (MEK)	10000	U	10000	1200	ug/L			07/24/23 18:37	1000
2-Hexanone	10000	U	10000	1100	ug/L			07/24/23 18:37	1000
4-Methyl-2-pentanone (MIBK)	10000	U	10000	990	ug/L			07/24/23 18:37	1000
Acetone	10000	U	10000	5400	ug/L			07/24/23 18:37	1000
Benzene	1000	U	1000	420	ug/L			07/24/23 18:37	1000
Dichlorobromomethane	1000	U	1000	380	ug/L			07/24/23 18:37	1000
Bromoform	1000	U	1000	760	ug/L			07/24/23 18:37	1000
Bromomethane	1000	U	1000	420	ug/L			07/24/23 18:37	1000
Carbon disulfide	1000	U	1000	590	ug/L			07/24/23 18:37	1000
Carbon tetrachloride	1000	U	1000	260	ug/L			07/24/23 18:37	1000
Chlorobenzene	1000	U	1000	380	ug/L			07/24/23 18:37	1000
Chloroethane	1000	U	1000	830	ug/L			07/24/23 18:37	1000
Chloroform	1000	U	1000	470	ug/L			07/24/23 18:37	1000
Chloromethane	1000	U	1000	630	ug/L			07/24/23 18:37	1000
cis-1,2-Dichloroethene	27000		1000	460	ug/L			07/24/23 18:37	1000
cis-1,3-Dichloropropene	1000	U	1000	610	ug/L			07/24/23 18:37	1000
Cyclohexane	1000	U	1000	480	ug/L			07/24/23 18:37	1000
Chlorodibromomethane	1000	U	1000	390	ug/L			07/24/23 18:37	1000
Dichlorodifluoromethane	1000	U	1000	350	ug/L			07/24/23 18:37	1000
Ethylbenzene	1000	U	1000	420	ug/L			07/24/23 18:37	1000
Isopropylbenzene	1000	U	1000	490	ug/L			07/24/23 18:37	1000
Methyl acetate	10000	U	10000	1700	ug/L			07/24/23 18:37	1000
Methyl tert-butyl ether	1000	U	1000	470	ug/L			07/24/23 18:37	1000
Methylcyclohexane	1000	U	1000	330	ug/L			07/24/23 18:37	1000
Methylene Chloride	5000	U	5000	2600	ug/L			07/24/23 18:37	1000
Styrene	1000	U	1000	450	ug/L			07/24/23 18:37	1000
Tetrachloroethene	1000	U	1000	440	ug/L			07/24/23 18:37	1000
Toluene	1000	U	1000	440	ug/L			07/24/23 18:37	1000
trans-1,2-Dichloroethene	1000	U	1000	510	ug/L			07/24/23 18:37	1000
trans-1,3-Dichloropropene	1000	U	1000	670	ug/L			07/24/23 18:37	1000
Trichloroethene	1000	U	1000	440	ug/L			07/24/23 18:37	1000
Trichlorofluoromethane	1000	U	1000	450	ug/L			07/24/23 18:37	1000
Vinyl chloride	18000		1000	450	ug/L			07/24/23 18:37	1000
Xylenes, Total	2000	U	2000	420	ug/L			07/24/23 18:37	1000

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		78 - 122		07/24/23 18:37	1000
Dibromofluoromethane (Surr)	116		73 - 120		07/24/23 18:37	1000
4-Bromofluorobenzene (Surr)	84		56 - 136		07/24/23 18:37	1000
1,2-Dichloroethane-d4 (Surr)	121		62 - 137		07/24/23 18:37	1000

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-021

Lab Sample ID: 240-188427-22

Date Collected: 07/12/23 11:30

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	25	U	25	12	ug/L			07/24/23 19:00	25
1,1,2,2-Tetrachloroethane	25	U	25	15	ug/L			07/24/23 19:00	25
1,1,2-Trichloro-1,2,2-trifluoroethane	25	U	25	10	ug/L			07/24/23 19:00	25
1,1,2-Trichloroethane	25	U	25	12	ug/L			07/24/23 19:00	25
1,1-Dichloroethane	25	U	25	12	ug/L			07/24/23 19:00	25
1,1-Dichloroethene	25	U	25	12	ug/L			07/24/23 19:00	25
1,2,4-Trichlorobenzene	25	U	25	19	ug/L			07/24/23 19:00	25
1,2-Dibromo-3-Chloropropane	50	U	50	23	ug/L			07/24/23 19:00	25
Ethylene Dibromide	25	U	25	10	ug/L			07/24/23 19:00	25
1,2-Dichlorobenzene	25	U	25	12	ug/L			07/24/23 19:00	25
1,2-Dichloroethane	25	U	25	11	ug/L			07/24/23 19:00	25
1,2-Dichloropropane	25	U	25	12	ug/L			07/24/23 19:00	25
1,3-Dichlorobenzene	25	U	25	11	ug/L			07/24/23 19:00	25
1,4-Dichlorobenzene	25	U	25	10	ug/L			07/24/23 19:00	25
2-Butanone (MEK)	250	U	250	29	ug/L			07/24/23 19:00	25
2-Hexanone	250	U	250	28	ug/L			07/24/23 19:00	25
4-Methyl-2-pentanone (MIBK)	250	U	250	25	ug/L			07/24/23 19:00	25
Acetone	250	U	250	140	ug/L			07/24/23 19:00	25
Benzene	200		25	11	ug/L			07/24/23 19:00	25
Dichlorobromomethane	25	U	25	9.4	ug/L			07/24/23 19:00	25
Bromoform	25	U	25	19	ug/L			07/24/23 19:00	25
Bromomethane	25	U	25	11	ug/L			07/24/23 19:00	25
Carbon disulfide	25	U	25	15	ug/L			07/24/23 19:00	25
Carbon tetrachloride	25	U	25	6.5	ug/L			07/24/23 19:00	25
Chlorobenzene	25	U	25	9.5	ug/L			07/24/23 19:00	25
Chloroethane	25	U	25	21	ug/L			07/24/23 19:00	25
Chloroform	25	U	25	12	ug/L			07/24/23 19:00	25
Chloromethane	25	U	25	16	ug/L			07/24/23 19:00	25
cis-1,2-Dichloroethene	160		25	12	ug/L			07/24/23 19:00	25
cis-1,3-Dichloropropene	25	U	25	15	ug/L			07/24/23 19:00	25
Cyclohexane	25	U	25	12	ug/L			07/24/23 19:00	25
Chlorodibromomethane	25	U	25	9.8	ug/L			07/24/23 19:00	25
Dichlorodifluoromethane	25	U	25	8.8	ug/L			07/24/23 19:00	25
Ethylbenzene	86		25	11	ug/L			07/24/23 19:00	25
Isopropylbenzene	20 J		25	12	ug/L			07/24/23 19:00	25
Methyl acetate	250	U	250	43	ug/L			07/24/23 19:00	25
Methyl tert-butyl ether	25	U	25	12	ug/L			07/24/23 19:00	25
Methylcyclohexane	25	U	25	8.3	ug/L			07/24/23 19:00	25
Methylene Chloride	130	U	130	66	ug/L			07/24/23 19:00	25
Styrene	25	U	25	11	ug/L			07/24/23 19:00	25
Tetrachloroethene	25	U	25	11	ug/L			07/24/23 19:00	25
Toluene	18 J		25	11	ug/L			07/24/23 19:00	25
trans-1,2-Dichloroethene	17 J		25	13	ug/L			07/24/23 19:00	25
trans-1,3-Dichloropropene	25	U	25	17	ug/L			07/24/23 19:00	25
Trichloroethene	25	U	25	11	ug/L			07/24/23 19:00	25
Trichlorofluoromethane	25	U	25	11	ug/L			07/24/23 19:00	25
Vinyl chloride	1400		25	11	ug/L			07/24/23 19:00	25
Xylenes, Total	170		50	11	ug/L			07/24/23 19:00	25

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		78 - 122		07/24/23 19:00	25
Dibromofluoromethane (Surr)	112		73 - 120		07/24/23 19:00	25
4-Bromofluorobenzene (Surr)	90		56 - 136		07/24/23 19:00	25
1,2-Dichloroethane-d4 (Surr)	122		62 - 137		07/24/23 19:00	25

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-022

Lab Sample ID: 240-188427-23

Date Collected: 07/12/23 11:50

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 19:24	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 19:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 19:24	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 19:24	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 19:24	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 19:24	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 19:24	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 19:24	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 19:24	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 19:24	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 19:24	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 19:24	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 19:24	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 19:24	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 19:24	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 19:24	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 19:24	1
Acetone	10	U	10	5.4	ug/L			07/24/23 19:24	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 19:24	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 19:24	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 19:24	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 19:24	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 19:24	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 19:24	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 19:24	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 19:24	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 19:24	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 19:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 19:24	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 19:24	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 19:24	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 19:24	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 19:24	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 19:24	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 19:24	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 19:24	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 19:24	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 19:24	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 19:24	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 19:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 19:24	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 19:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 19:24	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 19:24	1
Trichloroethene	2.6		1.0	0.44	ug/L			07/24/23 19:24	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 19:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 19:24	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 19:24	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		78 - 122		07/24/23 19:24	1
Dibromofluoromethane (Surr)	117		73 - 120		07/24/23 19:24	1
4-Bromofluorobenzene (Surr)	84		56 - 136		07/24/23 19:24	1
1,2-Dichloroethane-d4 (Surr)	126		62 - 137		07/24/23 19:24	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-023

Lab Sample ID: 240-188427-24

Date Collected: 07/12/23 12:20

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 19:47	1000
1,1,2,2-Tetrachloroethane	1000	U	1000	600	ug/L			07/24/23 19:47	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	410	ug/L			07/24/23 19:47	1000
1,1,2-Trichloroethane	1000	U	1000	480	ug/L			07/24/23 19:47	1000
1,1-Dichloroethane	1000	U	1000	470	ug/L			07/24/23 19:47	1000
1,1-Dichloroethene	1000	U	1000	490	ug/L			07/24/23 19:47	1000
1,2,4-Trichlorobenzene	1000	U	1000	770	ug/L			07/24/23 19:47	1000
1,2-Dibromo-3-Chloropropane	2000	U	2000	910	ug/L			07/24/23 19:47	1000
Ethylene Dibromide	1000	U	1000	410	ug/L			07/24/23 19:47	1000
1,2-Dichlorobenzene	1000	U	1000	480	ug/L			07/24/23 19:47	1000
1,2-Dichloroethane	1000	U	1000	460	ug/L			07/24/23 19:47	1000
1,2-Dichloropropane	1000	U	1000	470	ug/L			07/24/23 19:47	1000
1,3-Dichlorobenzene	1000	U	1000	450	ug/L			07/24/23 19:47	1000
1,4-Dichlorobenzene	1000	U	1000	410	ug/L			07/24/23 19:47	1000
2-Butanone (MEK)	10000	U	10000	1200	ug/L			07/24/23 19:47	1000
2-Hexanone	10000	U	10000	1100	ug/L			07/24/23 19:47	1000
4-Methyl-2-pentanone (MIBK)	10000	U	10000	990	ug/L			07/24/23 19:47	1000
Acetone	10000	U	10000	5400	ug/L			07/24/23 19:47	1000
Benzene	1000	U	1000	420	ug/L			07/24/23 19:47	1000
Dichlorobromomethane	1000	U	1000	380	ug/L			07/24/23 19:47	1000
Bromoform	1000	U	1000	760	ug/L			07/24/23 19:47	1000
Bromomethane	1000	U	1000	420	ug/L			07/24/23 19:47	1000
Carbon disulfide	1000	U	1000	590	ug/L			07/24/23 19:47	1000
Carbon tetrachloride	1000	U	1000	260	ug/L			07/24/23 19:47	1000
Chlorobenzene	1000	U	1000	380	ug/L			07/24/23 19:47	1000
Chloroethane	1000	U	1000	830	ug/L			07/24/23 19:47	1000
Chloroform	1000	U	1000	470	ug/L			07/24/23 19:47	1000
Chloromethane	1000	U	1000	630	ug/L			07/24/23 19:47	1000
cis-1,2-Dichloroethene	1000	U	1000	460	ug/L			07/24/23 19:47	1000
cis-1,3-Dichloropropene	1000	U	1000	610	ug/L			07/24/23 19:47	1000
Cyclohexane	1000	U	1000	480	ug/L			07/24/23 19:47	1000
Chlorodibromomethane	1000	U	1000	390	ug/L			07/24/23 19:47	1000
Dichlorodifluoromethane	1000	U	1000	350	ug/L			07/24/23 19:47	1000
Ethylbenzene	1000	U	1000	420	ug/L			07/24/23 19:47	1000
Isopropylbenzene	1000	U	1000	490	ug/L			07/24/23 19:47	1000
Methyl acetate	10000	U	10000	1700	ug/L			07/24/23 19:47	1000
Methyl tert-butyl ether	1000	U	1000	470	ug/L			07/24/23 19:47	1000
Methylcyclohexane	1000	U	1000	330	ug/L			07/24/23 19:47	1000
Methylene Chloride	5000	U	5000	2600	ug/L			07/24/23 19:47	1000
Styrene	1000	U	1000	450	ug/L			07/24/23 19:47	1000
Tetrachloroethene	1000	U	1000	440	ug/L			07/24/23 19:47	1000
Toluene	1000	U	1000	440	ug/L			07/24/23 19:47	1000
trans-1,2-Dichloroethene	1000	U	1000	510	ug/L			07/24/23 19:47	1000
trans-1,3-Dichloropropene	1000	U	1000	670	ug/L			07/24/23 19:47	1000
Trichloroethene	1000	U	1000	440	ug/L			07/24/23 19:47	1000
Trichlorofluoromethane	1000	U	1000	450	ug/L			07/24/23 19:47	1000
Vinyl chloride	20000		1000	450	ug/L			07/24/23 19:47	1000
Xylenes, Total	2000	U	2000	420	ug/L			07/24/23 19:47	1000

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		78 - 122		07/24/23 19:47	1000
Dibromofluoromethane (Surr)	117		73 - 120		07/24/23 19:47	1000
4-Bromofluorobenzene (Surr)	84		56 - 136		07/24/23 19:47	1000
1,2-Dichloroethane-d4 (Surr)	128		62 - 137		07/24/23 19:47	1000

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-024

Lab Sample ID: 240-188427-25

Date Collected: 07/12/23 12:55

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	200	96	ug/L			07/24/23 20:10	200
1,1,2,2-Tetrachloroethane	200	U	200	120	ug/L			07/24/23 20:10	200
1,1,2-Trichloro-1,2,2-trifluoroethane	200	U	200	82	ug/L			07/24/23 20:10	200
1,1,2-Trichloroethane	200	U	200	96	ug/L			07/24/23 20:10	200
1,1-Dichloroethane	200	U	200	94	ug/L			07/24/23 20:10	200
1,1-Dichloroethene	200	U	200	98	ug/L			07/24/23 20:10	200
1,2,4-Trichlorobenzene	200	U	200	150	ug/L			07/24/23 20:10	200
1,2-Dibromo-3-Chloropropane	400	U	400	180	ug/L			07/24/23 20:10	200
Ethylene Dibromide	200	U	200	82	ug/L			07/24/23 20:10	200
1,2-Dichlorobenzene	200	U	200	96	ug/L			07/24/23 20:10	200
1,2-Dichloroethane	200	U	200	91	ug/L			07/24/23 20:10	200
1,2-Dichloropropane	200	U	200	94	ug/L			07/24/23 20:10	200
1,3-Dichlorobenzene	200	U	200	90	ug/L			07/24/23 20:10	200
1,4-Dichlorobenzene	200	U	200	82	ug/L			07/24/23 20:10	200
2-Butanone (MEK)	250	J	2000	230	ug/L			07/24/23 20:10	200
2-Hexanone	2000	U	2000	220	ug/L			07/24/23 20:10	200
4-Methyl-2-pentanone (MIBK)	2000	U	2000	200	ug/L			07/24/23 20:10	200
Acetone	2000	U	2000	1100	ug/L			07/24/23 20:10	200
Benzene	200	U	200	84	ug/L			07/24/23 20:10	200
Dichlorobromomethane	200	U	200	75	ug/L			07/24/23 20:10	200
Bromoform	200	U	200	150	ug/L			07/24/23 20:10	200
Bromomethane	200	U	200	84	ug/L			07/24/23 20:10	200
Carbon disulfide	200	U	200	120	ug/L			07/24/23 20:10	200
Carbon tetrachloride	200	U	200	52	ug/L			07/24/23 20:10	200
Chlorobenzene	200	U	200	76	ug/L			07/24/23 20:10	200
Chloroethane	200	U	200	170	ug/L			07/24/23 20:10	200
Chloroform	200	U	200	94	ug/L			07/24/23 20:10	200
Chloromethane	200	U	200	130	ug/L			07/24/23 20:10	200
cis-1,2-Dichloroethene	170	J	200	92	ug/L			07/24/23 20:10	200
cis-1,3-Dichloropropene	200	U	200	120	ug/L			07/24/23 20:10	200
Cyclohexane	200	U	200	96	ug/L			07/24/23 20:10	200
Chlorodibromomethane	200	U	200	78	ug/L			07/24/23 20:10	200
Dichlorodifluoromethane	200	U	200	70	ug/L			07/24/23 20:10	200
Ethylbenzene	200	U	200	84	ug/L			07/24/23 20:10	200
Isopropylbenzene	200	U	200	98	ug/L			07/24/23 20:10	200
Methyl acetate	2000	U	2000	340	ug/L			07/24/23 20:10	200
Methyl tert-butyl ether	200	U	200	94	ug/L			07/24/23 20:10	200
Methylcyclohexane	200	U	200	66	ug/L			07/24/23 20:10	200
Methylene Chloride	1000	U	1000	520	ug/L			07/24/23 20:10	200
Styrene	200	U	200	90	ug/L			07/24/23 20:10	200
Tetrachloroethene	200	U	200	88	ug/L			07/24/23 20:10	200
Toluene	200	U	200	88	ug/L			07/24/23 20:10	200
trans-1,2-Dichloroethene	200	U	200	100	ug/L			07/24/23 20:10	200
trans-1,3-Dichloropropene	200	U	200	130	ug/L			07/24/23 20:10	200
Trichloroethene	200	U	200	88	ug/L			07/24/23 20:10	200
Trichlorofluoromethane	200	U	200	90	ug/L			07/24/23 20:10	200
Vinyl chloride	3800		200	90	ug/L			07/24/23 20:10	200
Xylenes, Total	400	U	400	84	ug/L			07/24/23 20:10	200

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		78 - 122		07/24/23 20:10	200
Dibromofluoromethane (Surr)	112		73 - 120		07/24/23 20:10	200
4-Bromofluorobenzene (Surr)	82		56 - 136		07/24/23 20:10	200
1,2-Dichloroethane-d4 (Surr)	120		62 - 137		07/24/23 20:10	200

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-025

Lab Sample ID: 240-188427-26

Date Collected: 07/12/23 13:25

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	50	U	50	24	ug/L			07/24/23 20:34	50
1,1,2,2-Tetrachloroethane	50	U	50	30	ug/L			07/24/23 20:34	50
1,1,2-Trichloro-1,2,2-trifluoroethane	50	U	50	21	ug/L			07/24/23 20:34	50
1,1,2-Trichloroethane	50	U	50	24	ug/L			07/24/23 20:34	50
1,1-Dichloroethane	50	U	50	24	ug/L			07/24/23 20:34	50
1,1-Dichloroethene	50	U	50	25	ug/L			07/24/23 20:34	50
1,2,4-Trichlorobenzene	50	U	50	39	ug/L			07/24/23 20:34	50
1,2-Dibromo-3-Chloropropane	100	U	100	46	ug/L			07/24/23 20:34	50
Ethylene Dibromide	50	U	50	21	ug/L			07/24/23 20:34	50
1,2-Dichlorobenzene	50	U	50	24	ug/L			07/24/23 20:34	50
1,2-Dichloroethane	50	U	50	23	ug/L			07/24/23 20:34	50
1,2-Dichloropropane	50	U	50	24	ug/L			07/24/23 20:34	50
1,3-Dichlorobenzene	50	U	50	23	ug/L			07/24/23 20:34	50
1,4-Dichlorobenzene	50	U	50	21	ug/L			07/24/23 20:34	50
2-Butanone (MEK)	500	U	500	58	ug/L			07/24/23 20:34	50
2-Hexanone	500	U	500	56	ug/L			07/24/23 20:34	50
4-Methyl-2-pentanone (MIBK)	500	U	500	50	ug/L			07/24/23 20:34	50
Acetone	500	U	500	270	ug/L			07/24/23 20:34	50
Benzene	50	U	50	21	ug/L			07/24/23 20:34	50
Dichlorobromomethane	50	U	50	19	ug/L			07/24/23 20:34	50
Bromoform	50	U	50	38	ug/L			07/24/23 20:34	50
Bromomethane	50	U	50	21	ug/L			07/24/23 20:34	50
Carbon disulfide	50	U	50	30	ug/L			07/24/23 20:34	50
Carbon tetrachloride	50	U	50	13	ug/L			07/24/23 20:34	50
Chlorobenzene	50	U	50	19	ug/L			07/24/23 20:34	50
Chloroethane	50	U	50	42	ug/L			07/24/23 20:34	50
Chloroform	50	U	50	24	ug/L			07/24/23 20:34	50
Chloromethane	50	U	50	32	ug/L			07/24/23 20:34	50
cis-1,2-Dichloroethene	110		50	23	ug/L			07/24/23 20:34	50
cis-1,3-Dichloropropene	50	U	50	31	ug/L			07/24/23 20:34	50
Cyclohexane	50	U	50	24	ug/L			07/24/23 20:34	50
Chlorodibromomethane	50	U	50	20	ug/L			07/24/23 20:34	50
Dichlorodifluoromethane	50	U	50	18	ug/L			07/24/23 20:34	50
Ethylbenzene	50	U	50	21	ug/L			07/24/23 20:34	50
Isopropylbenzene	50	U	50	25	ug/L			07/24/23 20:34	50
Methyl acetate	500	U	500	86	ug/L			07/24/23 20:34	50
Methyl tert-butyl ether	50	U	50	24	ug/L			07/24/23 20:34	50
Methylcyclohexane	50	U	50	17	ug/L			07/24/23 20:34	50
Methylene Chloride	250	U	250	130	ug/L			07/24/23 20:34	50
Styrene	50	U	50	23	ug/L			07/24/23 20:34	50
Tetrachloroethene	50	U	50	22	ug/L			07/24/23 20:34	50
Toluene	50	U	50	22	ug/L			07/24/23 20:34	50
trans-1,2-Dichloroethene	50	U	50	26	ug/L			07/24/23 20:34	50
trans-1,3-Dichloropropene	50	U	50	34	ug/L			07/24/23 20:34	50
Trichloroethene	50	U	50	22	ug/L			07/24/23 20:34	50
Trichlorofluoromethane	50	U	50	23	ug/L			07/24/23 20:34	50
Vinyl chloride	1200		50	23	ug/L			07/24/23 20:34	50
Xylenes, Total	100	U	100	21	ug/L			07/24/23 20:34	50

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		78 - 122		07/24/23 20:34	50
Dibromofluoromethane (Surr)	113		73 - 120		07/24/23 20:34	50
4-Bromofluorobenzene (Surr)	80		56 - 136		07/24/23 20:34	50
1,2-Dichloroethane-d4 (Surr)	120		62 - 137		07/24/23 20:34	50

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071223-DR-026

Lab Sample ID: 240-188427-27

Date Collected: 07/12/23 13:20

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	100	U	100	48	ug/L			07/24/23 20:57	100
1,1,2,2-Tetrachloroethane	100	U	100	60	ug/L			07/24/23 20:57	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	41	ug/L			07/24/23 20:57	100
1,1,2-Trichloroethane	100	U	100	48	ug/L			07/24/23 20:57	100
1,1-Dichloroethane	100	U	100	47	ug/L			07/24/23 20:57	100
1,1-Dichloroethene	100	U	100	49	ug/L			07/24/23 20:57	100
1,2,4-Trichlorobenzene	100	U	100	77	ug/L			07/24/23 20:57	100
1,2-Dibromo-3-Chloropropane	200	U	200	91	ug/L			07/24/23 20:57	100
Ethylene Dibromide	100	U	100	41	ug/L			07/24/23 20:57	100
1,2-Dichlorobenzene	100	U	100	48	ug/L			07/24/23 20:57	100
1,2-Dichloroethane	100	U	100	46	ug/L			07/24/23 20:57	100
1,2-Dichloropropane	100	U	100	47	ug/L			07/24/23 20:57	100
1,3-Dichlorobenzene	100	U	100	45	ug/L			07/24/23 20:57	100
1,4-Dichlorobenzene	100	U	100	41	ug/L			07/24/23 20:57	100
2-Butanone (MEK)	130	J	1000	120	ug/L			07/24/23 20:57	100
2-Hexanone	1000	U	1000	110	ug/L			07/24/23 20:57	100
4-Methyl-2-pentanone (MIBK)	1000	U	1000	99	ug/L			07/24/23 20:57	100
Acetone	1000	U	1000	540	ug/L			07/24/23 20:57	100
Benzene	100	U	100	42	ug/L			07/24/23 20:57	100
Dichlorobromomethane	100	U	100	38	ug/L			07/24/23 20:57	100
Bromoform	100	U	100	76	ug/L			07/24/23 20:57	100
Bromomethane	100	U	100	42	ug/L			07/24/23 20:57	100
Carbon disulfide	100	U	100	59	ug/L			07/24/23 20:57	100
Carbon tetrachloride	100	U	100	26	ug/L			07/24/23 20:57	100
Chlorobenzene	100	U	100	38	ug/L			07/24/23 20:57	100
Chloroethane	100	U	100	83	ug/L			07/24/23 20:57	100
Chloroform	100	U	100	47	ug/L			07/24/23 20:57	100
Chloromethane	100	U	100	63	ug/L			07/24/23 20:57	100
cis-1,2-Dichloroethene	220		100	46	ug/L			07/24/23 20:57	100
cis-1,3-Dichloropropene	100	U	100	61	ug/L			07/24/23 20:57	100
Cyclohexane	100	U	100	48	ug/L			07/24/23 20:57	100
Chlorodibromomethane	100	U	100	39	ug/L			07/24/23 20:57	100
Dichlorodifluoromethane	100	U	100	35	ug/L			07/24/23 20:57	100
Ethylbenzene	100	U	100	42	ug/L			07/24/23 20:57	100
Isopropylbenzene	100	U	100	49	ug/L			07/24/23 20:57	100
Methyl acetate	1000	U	1000	170	ug/L			07/24/23 20:57	100
Methyl tert-butyl ether	100	U	100	47	ug/L			07/24/23 20:57	100
Methylcyclohexane	100	U	100	33	ug/L			07/24/23 20:57	100
Methylene Chloride	500	U	500	260	ug/L			07/24/23 20:57	100
Styrene	100	U	100	45	ug/L			07/24/23 20:57	100
Tetrachloroethene	100	U	100	44	ug/L			07/24/23 20:57	100
Toluene	100	U	100	44	ug/L			07/24/23 20:57	100
trans-1,2-Dichloroethene	100	U	100	51	ug/L			07/24/23 20:57	100
trans-1,3-Dichloropropene	100	U	100	67	ug/L			07/24/23 20:57	100
Trichloroethene	100	U	100	44	ug/L			07/24/23 20:57	100
Trichlorofluoromethane	100	U	100	45	ug/L			07/24/23 20:57	100
Vinyl chloride	3200		100	45	ug/L			07/24/23 20:57	100
Xylenes, Total	200	U	200	42	ug/L			07/24/23 20:57	100

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		78 - 122		07/24/23 20:57	100
Dibromofluoromethane (Surr)	116		73 - 120		07/24/23 20:57	100
4-Bromofluorobenzene (Surr)	83		56 - 136		07/24/23 20:57	100
1,2-Dichloroethane-d4 (Surr)	126		62 - 137		07/24/23 20:57	100

QC Association Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

GC/MS VOA

Analysis Batch: 581512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188427-1	TB-11223983-071123	Total/NA	Water	8260D	
240-188427-2	GW-11223983-071123-DR-001	Total/NA	Water	8260D	
240-188427-3	GW-11223983-071123-DR-002	Total/NA	Water	8260D	
240-188427-4	GW-11223983-071123-DR-003	Total/NA	Water	8260D	
240-188427-5	GW-11223983-071123-DR-004	Total/NA	Water	8260D	
240-188427-6	GW-11223983-071123-DR-005	Total/NA	Water	8260D	
240-188427-7	GW-11223983-071123-DR-006	Total/NA	Water	8260D	
240-188427-8	GW-11223983-071123-DR-007	Total/NA	Water	8260D	
240-188427-9	GW-11223983-071123-DR-008	Total/NA	Water	8260D	
240-188427-10	GW-11223983-071123-DR-009	Total/NA	Water	8260D	
240-188427-11	GW-11223983-071123-DR-010	Total/NA	Water	8260D	
240-188427-12	GW-11223983-071123-DR-011	Total/NA	Water	8260D	
240-188427-13	GW-11223983-071123-DR-012	Total/NA	Water	8260D	
MB 240-581512/8	Method Blank	Total/NA	Water	8260D	
LCS 240-581512/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 581555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188427-14	GW-11223983-071223-DR-013	Total/NA	Water	8260D	
240-188427-15	GW-11223983-071223-DR-014	Total/NA	Water	8260D	
240-188427-16	GW-11223983-071223-DR-015	Total/NA	Water	8260D	
240-188427-18	GW-11223983-071223-DR-017	Total/NA	Water	8260D	
240-188427-19	GW-11223983-071223-DR-018	Total/NA	Water	8260D	
MB 240-581555/10	Method Blank	Total/NA	Water	8260D	
LCS 240-581555/6	Lab Control Sample	Total/NA	Water	8260D	
240-188427-15 MS	GW-11223983-071223-DR-014	Total/NA	Water	8260D	
240-188427-15 MSD	GW-11223983-071223-DR-014	Total/NA	Water	8260D	

Analysis Batch: 581615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188427-7	GW-11223983-071123-DR-006	Total/NA	Water	8260D	
240-188427-9	GW-11223983-071123-DR-008	Total/NA	Water	8260D	
MB 240-581615/8	Method Blank	Total/NA	Water	8260D	
LCS 240-581615/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 581619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188427-20	GW-11223983-071223-DR-019	Total/NA	Water	8260D	
240-188427-21	GW-11223983-071223-DR-020	Total/NA	Water	8260D	
240-188427-22	GW-11223983-071223-DR-021	Total/NA	Water	8260D	
240-188427-23	GW-11223983-071223-DR-022	Total/NA	Water	8260D	
240-188427-24	GW-11223983-071223-DR-023	Total/NA	Water	8260D	
240-188427-25	GW-11223983-071223-DR-024	Total/NA	Water	8260D	
240-188427-26	GW-11223983-071223-DR-025	Total/NA	Water	8260D	
240-188427-27	GW-11223983-071223-DR-026	Total/NA	Water	8260D	
MB 240-581619/9	Method Blank	Total/NA	Water	8260D	
LCS 240-581619/5	Lab Control Sample	Total/NA	Water	8260D	
240-188427-27 MS	GW-11223983-071223-DR-026	Total/NA	Water	8260D	
240-188427-27 MSD	GW-11223983-071223-DR-026	Total/NA	Water	8260D	

Eurofins Cleveland

QC Association Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

GC/MS VOA

Analysis Batch: 581701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188427-17	GW-11223983-071223-DR-016	Total/NA	Water	8260D	
240-188427-18	GW-11223983-071223-DR-017	Total/NA	Water	8260D	
240-188427-18	GW-11223983-071223-DR-017	Total/NA	Water	8260D	
240-188427-19	GW-11223983-071223-DR-018	Total/NA	Water	8260D	
MB 240-581701/10	Method Blank	Total/NA	Water	8260D	
LCS 240-581701/6	Lab Control Sample	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-581512/8

Matrix: Water

Analysis Batch: 581512

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 13:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/23/23 13:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/23/23 13:31	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/23/23 13:31	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/23/23 13:31	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/23/23 13:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/23/23 13:31	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/23/23 13:31	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/23/23 13:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/23/23 13:31	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/23/23 13:31	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/23/23 13:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/23/23 13:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/23/23 13:31	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/23/23 13:31	1
2-Hexanone	10	U	10	1.1	ug/L			07/23/23 13:31	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/23/23 13:31	1
Acetone	10	U	10	5.4	ug/L			07/23/23 13:31	1
Benzene	1.0	U	1.0	0.42	ug/L			07/23/23 13:31	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/23/23 13:31	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/23/23 13:31	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/23/23 13:31	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/23/23 13:31	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/23/23 13:31	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/23/23 13:31	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/23/23 13:31	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/23/23 13:31	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/23/23 13:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/23/23 13:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/23/23 13:31	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/23/23 13:31	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/23/23 13:31	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/23/23 13:31	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/23/23 13:31	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/23/23 13:31	1
Methyl acetate	10	U	10	1.7	ug/L			07/23/23 13:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/23/23 13:31	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/23/23 13:31	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/23/23 13:31	1
Styrene	1.0	U	1.0	0.45	ug/L			07/23/23 13:31	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 13:31	1
Toluene	1.0	U	1.0	0.44	ug/L			07/23/23 13:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/23/23 13:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/23/23 13:31	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/23/23 13:31	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/23/23 13:31	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/23/23 13:31	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581512/8

Matrix: Water

Analysis Batch: 581512

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/23/23 13:31	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		78 - 122					07/23/23 13:31	1
Dibromofluoromethane (Surr)	109		73 - 120					07/23/23 13:31	1
4-Bromofluorobenzene (Surr)	103		56 - 136					07/23/23 13:31	1
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					07/23/23 13:31	1

Lab Sample ID: LCS 240-581512/5

Matrix: Water

Analysis Batch: 581512

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	24.6		ug/L		99	64 - 131
1,1,2,2-Tetrachloroethane	25.0	25.2		ug/L		101	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.0		ug/L		100	51 - 146
1,1,2-Trichloroethane	25.0	24.8		ug/L		99	70 - 138
1,1-Dichloroethane	25.0	24.4		ug/L		97	72 - 127
1,1-Dichloroethene	25.0	24.4		ug/L		98	63 - 134
1,2,4-Trichlorobenzene	25.0	27.1		ug/L		108	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	24.0		ug/L		96	53 - 135
Ethylene Dibromide	25.0	25.4		ug/L		102	71 - 134
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	78 - 120
1,2-Dichloroethane	25.0	24.6		ug/L		98	66 - 128
1,2-Dichloropropane	25.0	24.5		ug/L		98	75 - 133
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	80 - 120
1,4-Dichlorobenzene	25.0	25.8		ug/L		103	80 - 120
2-Butanone (MEK)	50.0	50.4		ug/L		101	54 - 156
2-Hexanone	50.0	50.3		ug/L		101	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	46.2		ug/L		92	46 - 158
Acetone	50.0	51.0		ug/L		102	50 - 149
Benzene	25.0	25.1		ug/L		100	77 - 123
Dichlorobromomethane	25.0	24.2		ug/L		97	69 - 126
Bromoform	25.0	25.1		ug/L		101	57 - 129
Bromomethane	12.5	14.4		ug/L		115	36 - 142
Carbon disulfide	25.0	25.2		ug/L		101	43 - 140
Carbon tetrachloride	25.0	25.3		ug/L		101	55 - 137
Chlorobenzene	25.0	25.6		ug/L		102	80 - 121
Chloroethane	12.5	13.6		ug/L		109	38 - 152
Chloroform	25.0	25.5		ug/L		102	74 - 122
Chloromethane	12.5	11.7		ug/L		93	47 - 143
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	77 - 123
cis-1,3-Dichloropropene	25.0	23.0		ug/L		92	64 - 130
Cyclohexane	25.0	24.7		ug/L		99	58 - 146
Chlorodibromomethane	25.0	25.0		ug/L		100	70 - 124
Dichlorodifluoromethane	12.5	11.8		ug/L		95	34 - 153
Ethylbenzene	25.0	25.5		ug/L		102	80 - 121

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581512/5

Matrix: Water

Analysis Batch: 581512

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isopropylbenzene	25.0	26.3		ug/L		105	74 - 128
Methyl acetate	50.0	46.8		ug/L		94	42 - 169
Methyl tert-butyl ether	25.0	24.7		ug/L		99	65 - 126
Methylcyclohexane	25.0	25.1		ug/L		100	62 - 136
Methylene Chloride	25.0	26.2		ug/L		105	71 - 125
Styrene	25.0	25.1		ug/L		100	80 - 135
Tetrachloroethene	25.0	26.4		ug/L		105	76 - 123
Toluene	25.0	24.6		ug/L		98	80 - 123
trans-1,2-Dichloroethene	25.0	25.3		ug/L		101	75 - 124
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	57 - 129
Trichloroethene	25.0	25.2		ug/L		101	70 - 122
Trichlorofluoromethane	12.5	12.7		ug/L		101	30 - 170
Vinyl chloride	12.5	12.1		ug/L		97	60 - 144
Xylenes, Total	50.0	50.2		ug/L		100	80 - 121
m-Xylene & p-Xylene	25.0	25.5		ug/L		102	80 - 120
o-Xylene	25.0	24.7		ug/L		99	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	105		73 - 120
4-Bromofluorobenzene (Surr)	104		56 - 136
1,2-Dichloroethane-d4 (Surr)	105		62 - 137

Lab Sample ID: MB 240-581555/10

Matrix: Water

Analysis Batch: 581555

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 12:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 12:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 12:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 12:00	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 12:00	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 12:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 12:00	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 12:00	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 12:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 12:00	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 12:00	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 12:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 12:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 12:00	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 12:00	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 12:00	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 12:00	1
Acetone	10	U	10	5.4	ug/L			07/24/23 12:00	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 12:00	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581555/10

Matrix: Water

Analysis Batch: 581555

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 12:00	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 12:00	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 12:00	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 12:00	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 12:00	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 12:00	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 12:00	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 12:00	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 12:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 12:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 12:00	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 12:00	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 12:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 12:00	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 12:00	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 12:00	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 12:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 12:00	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 12:00	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 12:00	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 12:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 12:00	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 12:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 12:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 12:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 12:00	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 12:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 12:00	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 12:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		78 - 122		07/24/23 12:00	1
Dibromofluoromethane (Surr)	89		73 - 120		07/24/23 12:00	1
4-Bromofluorobenzene (Surr)	92		56 - 136		07/24/23 12:00	1
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		07/24/23 12:00	1

Lab Sample ID: LCS 240-581555/6

Matrix: Water

Analysis Batch: 581555

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.8		ug/L		94	64 - 131
1,1,2,2-Tetrachloroethane	20.0	21.4		ug/L		107	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.3		ug/L		106	51 - 146
1,1,2-Trichloroethane	20.0	19.4		ug/L		97	70 - 138
1,1-Dichloroethane	20.0	19.2		ug/L		96	72 - 127
1,1-Dichloroethene	20.0	20.5		ug/L		102	63 - 134

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581555/6

Matrix: Water

Analysis Batch: 581555

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4-Trichlorobenzene	20.0	18.5		ug/L		93	44 - 147
1,2-Dibromo-3-Chloropropane	20.0	18.9		ug/L		95	53 - 135
Ethylene Dibromide	20.0	19.5		ug/L		98	71 - 134
1,2-Dichlorobenzene	20.0	20.1		ug/L		101	78 - 120
1,2-Dichloroethane	20.0	16.2		ug/L		81	66 - 128
1,2-Dichloropropane	20.0	20.1		ug/L		101	75 - 133
1,3-Dichlorobenzene	20.0	20.8		ug/L		104	80 - 120
1,4-Dichlorobenzene	20.0	19.9		ug/L		100	80 - 120
2-Butanone (MEK)	40.0	36.5		ug/L		91	54 - 156
2-Hexanone	40.0	41.2		ug/L		103	43 - 167
4-Methyl-2-pentanone (MIBK)	40.0	39.5		ug/L		99	46 - 158
Acetone	40.0	34.8		ug/L		87	50 - 149
Benzene	20.0	19.8		ug/L		99	77 - 123
Dichlorobromomethane	20.0	17.8		ug/L		89	69 - 126
Bromoform	20.0	19.5		ug/L		97	57 - 129
Bromomethane	20.0	16.1		ug/L		80	36 - 142
Carbon disulfide	20.0	22.2		ug/L		111	43 - 140
Carbon tetrachloride	20.0	18.3		ug/L		91	55 - 137
Chlorobenzene	20.0	19.6		ug/L		98	80 - 121
Chloroethane	20.0	15.6		ug/L		78	38 - 152
Chloroform	20.0	18.2		ug/L		91	74 - 122
Chloromethane	20.0	17.3		ug/L		86	47 - 143
cis-1,2-Dichloroethene	20.0	19.1		ug/L		95	77 - 123
cis-1,3-Dichloropropene	20.0	18.7		ug/L		93	64 - 130
Cyclohexane	20.0	23.8		ug/L		119	58 - 146
Chlorodibromomethane	20.0	19.4		ug/L		97	70 - 124
Dichlorodifluoromethane	20.0	12.4		ug/L		62	34 - 153
Ethylbenzene	20.0	19.7		ug/L		99	80 - 121
Isopropylbenzene	20.0	20.1		ug/L		100	74 - 128
Methyl acetate	40.0	38.6		ug/L		96	42 - 169
Methyl tert-butyl ether	20.0	18.0		ug/L		90	65 - 126
Methylcyclohexane	20.0	21.2		ug/L		106	62 - 136
Methylene Chloride	20.0	18.1		ug/L		91	71 - 125
Styrene	20.0	20.7		ug/L		103	80 - 135
Tetrachloroethene	20.0	20.1		ug/L		101	76 - 123
Toluene	20.0	19.0		ug/L		95	80 - 123
trans-1,2-Dichloroethene	20.0	19.3		ug/L		97	75 - 124
trans-1,3-Dichloropropene	20.0	19.9		ug/L		100	57 - 129
Trichloroethene	20.0	19.0		ug/L		95	70 - 122
Trichlorofluoromethane	20.0	15.6		ug/L		78	30 - 170
Vinyl chloride	20.0	17.0		ug/L		85	60 - 144
Xylenes, Total	40.0	39.1		ug/L		98	80 - 121
m-Xylene & p-Xylene	20.0	19.5		ug/L		98	80 - 120
o-Xylene	20.0	19.6		ug/L		98	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		78 - 122

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581555/6

Matrix: Water

Analysis Batch: 581555

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	92		73 - 120
4-Bromofluorobenzene (Surr)	95		56 - 136
1,2-Dichloroethane-d4 (Surr)	85		62 - 137

Lab Sample ID: 240-188427-15 MS

Matrix: Water

Analysis Batch: 581555

Client Sample ID: GW-11223983-071223-DR-014

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	11		20.0	27.4		ug/L		83	60 - 130
1,1,2,2-Tetrachloroethane	1.0	U	20.0	19.5		ug/L		98	54 - 145
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	20.0	18.6		ug/L		93	41 - 147
1,1,2-Trichloroethane	1.0	U	20.0	17.7		ug/L		88	69 - 131
1,1-Dichloroethane	1.5		20.0	19.4		ug/L		89	68 - 125
1,1-Dichloroethene	1.0	U	20.0	18.3		ug/L		92	56 - 135
1,2,4-Trichlorobenzene	1.0	U	20.0	13.6		ug/L		68	29 - 156
1,2-Dibromo-3-Chloropropane	2.0	U	20.0	15.2		ug/L		76	41 - 129
Ethylene Dibromide	1.0	U	20.0	17.5		ug/L		87	69 - 125
1,2-Dichlorobenzene	1.0	U	20.0	17.0		ug/L		85	73 - 120
1,2-Dichloroethane	1.0	U	20.0	15.1		ug/L		76	63 - 126
1,2-Dichloropropane	1.0	U	20.0	18.3		ug/L		91	69 - 130
1,3-Dichlorobenzene	1.0	U	20.0	17.5		ug/L		88	73 - 120
1,4-Dichlorobenzene	1.0	U	20.0	17.0		ug/L		85	74 - 120
2-Butanone (MEK)	10	U	40.0	34.5		ug/L		86	40 - 151
2-Hexanone	10	U	40.0	34.3		ug/L		86	35 - 156
4-Methyl-2-pentanone (MIBK)	10	U	40.0	35.5		ug/L		89	31 - 153
Acetone	10	U	40.0	24.7		ug/L		62	33 - 149
Benzene	1.0	U	20.0	18.0		ug/L		90	64 - 128
Dichlorobromomethane	1.0	U	20.0	15.9		ug/L		80	62 - 125
Bromoform	1.0	U	20.0	16.9		ug/L		84	47 - 125
Bromomethane	1.0	U	20.0	14.5		ug/L		73	28 - 150
Carbon disulfide	1.0	U	20.0	18.3		ug/L		91	38 - 140
Carbon tetrachloride	1.0	U	20.0	16.2		ug/L		81	51 - 133
Chlorobenzene	1.0	U	20.0	17.2		ug/L		86	74 - 121
Chloroethane	1.0	U	20.0	15.1		ug/L		75	10 - 199
Chloroform	1.0	U	20.0	16.6		ug/L		83	70 - 122
Chloromethane	1.0	U	20.0	16.7		ug/L		83	32 - 149
cis-1,2-Dichloroethene	0.62	J	20.0	18.4		ug/L		89	66 - 128
cis-1,3-Dichloropropene	1.0	U	20.0	16.6		ug/L		83	47 - 125
Cyclohexane	1.0	U	20.0	20.4		ug/L		102	42 - 147
Chlorodibromomethane	1.0	U	20.0	17.2		ug/L		86	65 - 120
Dichlorodifluoromethane	1.0	U	20.0	11.2		ug/L		56	38 - 139
Ethylbenzene	1.0	U	20.0	17.0		ug/L		85	67 - 127
Isopropylbenzene	1.0	U	20.0	17.0		ug/L		85	64 - 129
Methyl acetate	10	U	40.0	33.2		ug/L		83	37 - 155
Methyl tert-butyl ether	1.0	U	20.0	17.0		ug/L		85	47 - 134
Methylcyclohexane	1.0	U	20.0	18.3		ug/L		92	39 - 144

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188427-15 MS

Matrix: Water

Analysis Batch: 581555

Client Sample ID: GW-11223983-071223-DR-014

Prep Type: Total/NA

Analysis Date: 06/16/2025

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits
Methylene Chloride	5.0	U	20.0	15.7		ug/L		78	62 - 129
Styrene	1.0	U	20.0	17.7		ug/L		89	70 - 139
Tetrachloroethene	1.0	U	20.0	18.6		ug/L		93	62 - 131
Toluene	1.0	U	20.0	16.9		ug/L		84	58 - 135
trans-1,2-Dichloroethene	1.0	U	20.0	17.2		ug/L		86	56 - 136
trans-1,3-Dichloropropene	1.0	U	20.0	17.5		ug/L		88	47 - 120
Trichloroethene	1.0	U	20.0	16.8		ug/L		84	61 - 124
Trichlorofluoromethane	1.0	U	20.0	14.2		ug/L		71	24 - 177
Vinyl chloride	1.0	U	20.0	17.0		ug/L		85	43 - 157
Xylenes, Total	2.0	U	40.0	33.7		ug/L		84	71 - 123
m-Xylene & p-Xylene	2.0	U	20.0	16.8		ug/L		84	71 - 123
o-Xylene	1.0	U	20.0	16.9		ug/L		84	70 - 125
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	100		78 - 122						
Dibromofluoromethane (Surr)	92		73 - 120						
4-Bromofluorobenzene (Surr)	95		56 - 136						
1,2-Dichloroethane-d4 (Surr)	85		62 - 137						

Lab Sample ID: 240-188427-15 MSD

Matrix: Water

Analysis Batch: 581555

Client Sample ID: GW-11223983-071223-DR-014

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	11		20.0	29.8		ug/L		95	60 - 130	8	17
1,1,2,2-Tetrachloroethane	1.0	U	20.0	20.9		ug/L		105	54 - 145	7	15
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	20.0	20.7		ug/L		104	41 - 147	11	35
1,1,2-Trichloroethane	1.0	U	20.0	19.1		ug/L		96	69 - 131	8	14
1,1-Dichloroethane	1.5		20.0	21.1		ug/L		98	68 - 125	9	13
1,1-Dichloroethene	1.0	U	20.0	20.2		ug/L		101	56 - 135	10	26
1,2,4-Trichlorobenzene	1.0	U	20.0	14.0		ug/L		70	29 - 156	2	19
1,2-Dibromo-3-Chloropropane	2.0	U	20.0	16.0		ug/L		80	41 - 129	5	22
Ethylene Dibromide	1.0	U	20.0	19.3		ug/L		97	69 - 125	10	14
1,2-Dichlorobenzene	1.0	U	20.0	18.0		ug/L		90	73 - 120	6	14
1,2-Dichloroethane	1.0	U	20.0	16.4		ug/L		82	63 - 126	8	12
1,2-Dichloropropane	1.0	U	20.0	19.9		ug/L		100	69 - 130	8	13
1,3-Dichlorobenzene	1.0	U	20.0	19.5		ug/L		97	73 - 120	10	14
1,4-Dichlorobenzene	1.0	U	20.0	18.7		ug/L		94	74 - 120	10	15
2-Butanone (MEK)	10	U	40.0	36.2		ug/L		90	40 - 151	5	20
2-Hexanone	10	U	40.0	37.8		ug/L		95	35 - 156	10	17
4-Methyl-2-pentanone (MIBK)	10	U	40.0	37.7		ug/L		94	31 - 153	6	15
Acetone	10	U	40.0	27.4		ug/L		69	33 - 149	11	34
Benzene	1.0	U	20.0	19.7		ug/L		99	64 - 128	9	14
Dichlorobromomethane	1.0	U	20.0	17.5		ug/L		88	62 - 125	10	13
Bromoform	1.0	U	20.0	18.5		ug/L		93	47 - 125	9	15
Bromomethane	1.0	U	20.0	15.9		ug/L		79	28 - 150	9	26
Carbon disulfide	1.0	U	20.0	20.4		ug/L		102	38 - 140	11	23

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188427-15 MSD

Client Sample ID: GW-11223983-071223-DR-014

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 581555

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon tetrachloride	1.0	U	20.0	18.1		ug/L		91	51 - 133	11	24
Chlorobenzene	1.0	U	20.0	19.3		ug/L		96	74 - 121	12	14
Chloroethane	1.0	U	20.0	16.4		ug/L		82	10 - 199	9	30
Chloroform	1.0	U	20.0	17.7		ug/L		89	70 - 122	7	14
Chloromethane	1.0	U	20.0	18.2		ug/L		91	32 - 149	9	27
cis-1,2-Dichloroethene	0.62	J	20.0	19.6		ug/L		95	66 - 128	6	14
cis-1,3-Dichloropropene	1.0	U	20.0	18.2		ug/L		91	47 - 125	9	13
Cyclohexane	1.0	U	20.0	27.2		ug/L		136	42 - 147	29	35
Chlorodibromomethane	1.0	U	20.0	19.0		ug/L		95	65 - 120	10	13
Dichlorodifluoromethane	1.0	U	20.0	12.3		ug/L		62	38 - 139	9	35
Ethylbenzene	1.0	U	20.0	19.3		ug/L		97	67 - 127	13	15
Isopropylbenzene	1.0	U	20.0	19.0		ug/L		95	64 - 129	11	18
Methyl acetate	10	U	40.0	35.8		ug/L		90	37 - 155	8	18
Methyl tert-butyl ether	1.0	U	20.0	18.7		ug/L		93	47 - 134	9	16
Methylcyclohexane	1.0	U	20.0	20.2		ug/L		101	39 - 144	9	35
Methylene Chloride	5.0	U	20.0	17.3		ug/L		86	62 - 129	10	17
Styrene	1.0	U	20.0	19.9		ug/L		99	70 - 139	11	18
Tetrachloroethene	1.0	U	20.0	21.1		ug/L		105	62 - 131	12	20
Toluene	1.0	U	20.0	19.0		ug/L		95	58 - 135	11	14
trans-1,2-Dichloroethene	1.0	U	20.0	19.2		ug/L		96	56 - 136	11	15
trans-1,3-Dichloropropene	1.0	U	20.0	19.6		ug/L		98	47 - 120	11	14
Trichloroethene	1.0	U	20.0	19.0		ug/L		95	61 - 124	12	15
Trichlorofluoromethane	1.0	U	20.0	15.7		ug/L		78	24 - 177	10	34
Vinyl chloride	1.0	U	20.0	18.4		ug/L		92	43 - 157	8	24
Xylenes, Total	2.0	U	40.0	37.7		ug/L		94	71 - 123	11	15
m-Xylene & p-Xylene	2.0	U	20.0	18.9		ug/L		95	71 - 123	12	16
o-Xylene	1.0	U	20.0	18.8		ug/L		94	70 - 125	11	15

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120
4-Bromofluorobenzene (Surr)	97		56 - 136
1,2-Dichloroethane-d4 (Surr)	86		62 - 137

Lab Sample ID: MB 240-581615/8

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 581615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 14:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 14:52	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 14:52	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 14:52	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581615/8

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 14:52	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 14:52	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 14:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 14:52	1
Acetone	10	U	10	5.4	ug/L			07/24/23 14:52	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 14:52	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 14:52	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 14:52	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 14:52	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 14:52	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 14:52	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 14:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 14:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 14:52	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 14:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 14:52	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 14:52	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 14:52	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 14:52	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 14:52	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 14:52	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 14:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 14:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		78 - 122		07/24/23 14:52	1
Dibromofluoromethane (Surr)	109		73 - 120		07/24/23 14:52	1
4-Bromofluorobenzene (Surr)	106		56 - 136		07/24/23 14:52	1
1,2-Dichloroethane-d4 (Surr)	111		62 - 137		07/24/23 14:52	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581615/5

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	23.3		ug/L		93	64 - 131
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.7		ug/L		99	51 - 146
1,1,2-Trichloroethane	25.0	23.3		ug/L		93	70 - 138
1,1-Dichloroethane	25.0	23.1		ug/L		92	72 - 127
1,1-Dichloroethene	25.0	23.6		ug/L		94	63 - 134
1,2,4-Trichlorobenzene	25.0	25.1		ug/L		100	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	22.0		ug/L		88	53 - 135
Ethylene Dibromide	25.0	23.7		ug/L		95	71 - 134
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	78 - 120
1,2-Dichloroethane	25.0	23.7		ug/L		95	66 - 128
1,2-Dichloropropane	25.0	23.6		ug/L		94	75 - 133
1,3-Dichlorobenzene	25.0	24.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 120
2-Butanone (MEK)	50.0	48.1		ug/L		96	54 - 156
2-Hexanone	50.0	47.6		ug/L		95	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	43.7		ug/L		87	46 - 158
Acetone	50.0	47.4		ug/L		95	50 - 149
Benzene	25.0	23.6		ug/L		95	77 - 123
Dichlorobromomethane	25.0	22.5		ug/L		90	69 - 126
Bromoform	25.0	23.3		ug/L		93	57 - 129
Bromomethane	12.5	10.7		ug/L		86	36 - 142
Carbon disulfide	25.0	24.2		ug/L		97	43 - 140
Carbon tetrachloride	25.0	23.8		ug/L		95	55 - 137
Chlorobenzene	25.0	24.2		ug/L		97	80 - 121
Chloroethane	12.5	11.9		ug/L		95	38 - 152
Chloroform	25.0	24.1		ug/L		96	74 - 122
Chloromethane	12.5	10.3		ug/L		82	47 - 143
cis-1,2-Dichloroethene	25.0	23.7		ug/L		95	77 - 123
cis-1,3-Dichloropropene	25.0	21.3		ug/L		85	64 - 130
Cyclohexane	25.0	24.3		ug/L		97	58 - 146
Chlorodibromomethane	25.0	22.8		ug/L		91	70 - 124
Dichlorodifluoromethane	12.5	10.6		ug/L		85	34 - 153
Ethylbenzene	25.0	23.7		ug/L		95	80 - 121
Isopropylbenzene	25.0	24.8		ug/L		99	74 - 128
Methyl acetate	50.0	44.1		ug/L		88	42 - 169
Methyl tert-butyl ether	25.0	23.4		ug/L		94	65 - 126
Methylcyclohexane	25.0	24.9		ug/L		100	62 - 136
Methylene Chloride	25.0	24.3		ug/L		97	71 - 125
Styrene	25.0	23.7		ug/L		95	80 - 135
Tetrachloroethene	25.0	24.6		ug/L		98	76 - 123
Toluene	25.0	23.2		ug/L		93	80 - 123
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	75 - 124
trans-1,3-Dichloropropene	25.0	22.9		ug/L		91	57 - 129
Trichloroethene	25.0	23.6		ug/L		94	70 - 122
Trichlorofluoromethane	12.5	11.5		ug/L		92	30 - 170
Vinyl chloride	12.5	10.7		ug/L		86	60 - 144

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581615/5

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	50.0	47.1		ug/L		94	80 - 121
m-Xylene & p-Xylene	25.0	23.9		ug/L		95	80 - 120
o-Xylene	25.0	23.2		ug/L		93	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120
4-Bromofluorobenzene (Surr)	106		56 - 136
1,2-Dichloroethane-d4 (Surr)	108		62 - 137

Lab Sample ID: MB 240-581619/9

Matrix: Water

Analysis Batch: 581619

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:44	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 14:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 14:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:44	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 14:44	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 14:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 14:44	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 14:44	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 14:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 14:44	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 14:44	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 14:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 14:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 14:44	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 14:44	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 14:44	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 14:44	1
Acetone	10	U	10	5.4	ug/L			07/24/23 14:44	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:44	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 14:44	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 14:44	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 14:44	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 14:44	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 14:44	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 14:44	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 14:44	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 14:44	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 14:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 14:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 14:44	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 14:44	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 14:44	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581619/9

Matrix: Water

Analysis Batch: 581619

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 14:44	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:44	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 14:44	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 14:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 14:44	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 14:44	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 14:44	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 14:44	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:44	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 14:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 14:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 14:44	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:44	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 14:44	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 14:44	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 14:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		78 - 122		07/24/23 14:44	1
Dibromofluoromethane (Surr)	112		73 - 120		07/24/23 14:44	1
4-Bromofluorobenzene (Surr)	87		56 - 136		07/24/23 14:44	1
1,2-Dichloroethane-d4 (Surr)	119		62 - 137		07/24/23 14:44	1

Lab Sample ID: LCS 240-581619/5

Matrix: Water

Analysis Batch: 581619

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	25.6		ug/L		102	64 - 131
1,1,2,2-Tetrachloroethane	25.0	24.3		ug/L		97	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.2		ug/L		101	51 - 146
1,1,2-Trichloroethane	25.0	23.1		ug/L		92	70 - 138
1,1-Dichloroethane	25.0	23.8		ug/L		95	72 - 127
1,1-Dichloroethene	25.0	25.6		ug/L		102	63 - 134
1,2,4-Trichlorobenzene	25.0	21.4		ug/L		85	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	21.1		ug/L		84	53 - 135
Ethylene Dibromide	25.0	24.4		ug/L		98	71 - 134
1,2-Dichlorobenzene	25.0	23.7		ug/L		95	78 - 120
1,2-Dichloroethane	25.0	25.0		ug/L		100	66 - 128
1,2-Dichloropropane	25.0	24.9		ug/L		99	75 - 133
1,3-Dichlorobenzene	25.0	24.6		ug/L		98	80 - 120
1,4-Dichlorobenzene	25.0	22.9		ug/L		91	80 - 120
2-Butanone (MEK)	50.0	59.2		ug/L		118	54 - 156
2-Hexanone	50.0	54.8		ug/L		110	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	49.3		ug/L		99	46 - 158
Acetone	50.0	55.2		ug/L		110	50 - 149
Benzene	25.0	23.6		ug/L		94	77 - 123

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581619/5

Matrix: Water

Analysis Batch: 581619

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorobromomethane	25.0	24.0		ug/L		96	69 - 126
Bromoform	25.0	22.9		ug/L		92	57 - 129
Bromomethane	25.0	14.1		ug/L		57	36 - 142
Carbon disulfide	25.0	25.0		ug/L		100	43 - 140
Carbon tetrachloride	25.0	24.6		ug/L		98	55 - 137
Chlorobenzene	25.0	22.7		ug/L		91	80 - 121
Chloroethane	25.0	20.5		ug/L		82	38 - 152
Chloroform	25.0	24.1		ug/L		96	74 - 122
Chloromethane	25.0	18.0		ug/L		72	47 - 143
cis-1,2-Dichloroethene	25.0	23.4		ug/L		94	77 - 123
cis-1,3-Dichloropropene	25.0	22.8		ug/L		91	64 - 130
Cyclohexane	25.0	30.0		ug/L		120	58 - 146
Chlorodibromomethane	25.0	23.5		ug/L		94	70 - 124
Dichlorodifluoromethane	25.0	14.4		ug/L		58	34 - 153
Ethylbenzene	25.0	25.1		ug/L		101	80 - 121
Isopropylbenzene	25.0	21.5		ug/L		86	74 - 128
Methyl acetate	50.0	47.7		ug/L		95	42 - 169
Methyl tert-butyl ether	25.0	22.6		ug/L		90	65 - 126
Methylcyclohexane	25.0	24.8		ug/L		99	62 - 136
Methylene Chloride	25.0	22.2		ug/L		89	71 - 125
Styrene	25.0	23.0		ug/L		92	80 - 135
Tetrachloroethene	25.0	23.9		ug/L		96	76 - 123
Toluene	25.0	22.5		ug/L		90	80 - 123
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	75 - 124
trans-1,3-Dichloropropene	25.0	21.9		ug/L		88	57 - 129
Trichloroethene	25.0	23.1		ug/L		92	70 - 122
Trichlorofluoromethane	25.0	19.9		ug/L		79	30 - 170
Vinyl chloride	25.0	20.3		ug/L		81	60 - 144
Xylenes, Total	50.0	47.3		ug/L		95	80 - 121
m-Xylene & p-Xylene	25.0	25.9		ug/L		103	80 - 120
o-Xylene	25.0	21.4		ug/L		86	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120
4-Bromofluorobenzene (Surr)	102		56 - 136
1,2-Dichloroethane-d4 (Surr)	102		62 - 137

Lab Sample ID: 240-188427-27 MS

Matrix: Water

Analysis Batch: 581619

Client Sample ID: GW-11223983-071223-DR-026

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	100	U	2500	2480		ug/L		99	60 - 130
1,1,2,2-Tetrachloroethane	100	U	2500	2430		ug/L		97	54 - 145
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	2500	2220		ug/L		89	41 - 147
1,1,2-Trichloroethane	100	U	2500	2280		ug/L		91	69 - 131

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188427-27 MS

Client Sample ID: GW-11223983-071223-DR-026

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 581619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	100	U	2500	2390		ug/L		96	68 - 125
1,1-Dichloroethene	100	U	2500	2400		ug/L		96	56 - 135
1,2,4-Trichlorobenzene	100	U	2500	1950		ug/L		78	29 - 156
1,2-Dibromo-3-Chloropropane	200	U	2500	2050		ug/L		82	41 - 129
Ethylene Dibromide	100	U	2500	2310		ug/L		92	69 - 125
1,2-Dichlorobenzene	100	U	2500	2270		ug/L		91	73 - 120
1,2-Dichloroethane	100	U	2500	2650		ug/L		106	63 - 126
1,2-Dichloropropane	100	U	2500	2480		ug/L		99	69 - 130
1,3-Dichlorobenzene	100	U	2500	2360		ug/L		94	73 - 120
1,4-Dichlorobenzene	100	U	2500	2200		ug/L		88	74 - 120
2-Butanone (MEK)	130	J	5000	5580		ug/L		109	40 - 151
2-Hexanone	1000	U	5000	5150		ug/L		103	35 - 156
4-Methyl-2-pentanone (MIBK)	1000	U	5000	5080		ug/L		102	31 - 153
Acetone	1000	U	5000	6120		ug/L		122	33 - 149
Benzene	100	U	2500	2380		ug/L		95	64 - 128
Dichlorobromomethane	100	U	2500	2340		ug/L		93	62 - 125
Bromoform	100	U	2500	2100		ug/L		84	47 - 125
Bromomethane	100	U	2500	1450		ug/L		58	28 - 150
Carbon disulfide	100	U	2500	2300		ug/L		92	38 - 140
Carbon tetrachloride	100	U	2500	2380		ug/L		95	51 - 133
Chlorobenzene	100	U	2500	2160		ug/L		86	74 - 121
Chloroethane	100	U	2500	1990		ug/L		80	10 - 199
Chloroform	100	U	2500	2480		ug/L		99	70 - 122
Chloromethane	100	U	2500	1800		ug/L		72	32 - 149
cis-1,2-Dichloroethene	220		2500	2610		ug/L		95	66 - 128
cis-1,3-Dichloropropene	100	U	2500	2110		ug/L		84	47 - 125
Cyclohexane	100	U	2500	2770		ug/L		111	42 - 147
Chlorodibromomethane	100	U	2500	2280		ug/L		91	65 - 120
Dichlorodifluoromethane	100	U	2500	1280		ug/L		51	38 - 139
Ethylbenzene	100	U	2500	2330		ug/L		93	67 - 127
Isopropylbenzene	100	U	2500	1830		ug/L		73	64 - 129
Methyl acetate	1000	U	5000	4820		ug/L		96	37 - 155
Methyl tert-butyl ether	100	U	2500	2190		ug/L		88	47 - 134
Methylcyclohexane	100	U	2500	2130		ug/L		85	39 - 144
Methylene Chloride	500	U	2500	2220		ug/L		89	62 - 129
Styrene	100	U	2500	2130		ug/L		85	70 - 139
Tetrachloroethene	100	U	2500	2210		ug/L		88	62 - 131
Toluene	100	U	2500	2110		ug/L		84	58 - 135
trans-1,2-Dichloroethene	100	U	2500	2340		ug/L		94	56 - 136
trans-1,3-Dichloropropene	100	U	2500	1980		ug/L		79	47 - 120
Trichloroethene	100	U	2500	2200		ug/L		88	61 - 124
Trichlorofluoromethane	100	U	2500	1850		ug/L		74	24 - 177
Vinyl chloride	3200		2500	4490		ug/L		52	43 - 157
Xylenes, Total	200	U	5000	4200		ug/L		84	71 - 123
m-Xylene & p-Xylene	200	U	2500	2340		ug/L		94	71 - 123
o-Xylene	100	U	2500	1860		ug/L		74	70 - 125

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188427-27 MS

Matrix: Water

Analysis Batch: 581619

Client Sample ID: GW-11223983-071223-DR-026

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120
4-Bromofluorobenzene (Surr)	100		56 - 136
1,2-Dichloroethane-d4 (Surr)	107		62 - 137

Lab Sample ID: 240-188427-27 MSD

Matrix: Water

Analysis Batch: 581619

Client Sample ID: GW-11223983-071223-DR-026

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	100	U	2500	2480		ug/L		99	60 - 130	0	17
1,1,2,2-Tetrachloroethane	100	U	2500	2460		ug/L		98	54 - 145	1	15
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	2500	2260		ug/L		90	41 - 147	2	35
1,1,2-Trichloroethane	100	U	2500	2290		ug/L		91	69 - 131	0	14
1,1-Dichloroethane	100	U	2500	2380		ug/L		95	68 - 125	0	13
1,1-Dichloroethene	100	U	2500	2450		ug/L		98	56 - 135	2	26
1,2,4-Trichlorobenzene	100	U	2500	2040		ug/L		82	29 - 156	4	19
1,2-Dibromo-3-Chloropropane	200	U	2500	2180		ug/L		87	41 - 129	6	22
Ethylene Dibromide	100	U	2500	2330		ug/L		93	69 - 125	1	14
1,2-Dichlorobenzene	100	U	2500	2230		ug/L		89	73 - 120	2	14
1,2-Dichloroethane	100	U	2500	2620		ug/L		105	63 - 126	1	12
1,2-Dichloropropane	100	U	2500	2520		ug/L		101	69 - 130	2	13
1,3-Dichlorobenzene	100	U	2500	2310		ug/L		92	73 - 120	2	14
1,4-Dichlorobenzene	100	U	2500	2140		ug/L		86	74 - 120	3	15
2-Butanone (MEK)	130	J	5000	5580		ug/L		109	40 - 151	0	20
2-Hexanone	1000	U	5000	5190		ug/L		104	35 - 156	1	17
4-Methyl-2-pentanone (MIBK)	1000	U	5000	5160		ug/L		103	31 - 153	1	15
Acetone	1000	U	5000	5810		ug/L		116	33 - 149	5	34
Benzene	100	U	2500	2370		ug/L		95	64 - 128	1	14
Dichlorobromomethane	100	U	2500	2370		ug/L		95	62 - 125	1	13
Bromoform	100	U	2500	2100		ug/L		84	47 - 125	0	15
Bromomethane	100	U	2500	1590		ug/L		64	28 - 150	9	26
Carbon disulfide	100	U	2500	2310		ug/L		92	38 - 140	0	23
Carbon tetrachloride	100	U	2500	2300		ug/L		92	51 - 133	4	24
Chlorobenzene	100	U	2500	2120		ug/L		85	74 - 121	2	14
Chloroethane	100	U	2500	2030		ug/L		81	10 - 199	2	30
Chloroform	100	U	2500	2440		ug/L		97	70 - 122	2	14
Chloromethane	100	U	2500	1860		ug/L		74	32 - 149	3	27
cis-1,2-Dichloroethene	220		2500	2640		ug/L		97	66 - 128	1	14
cis-1,3-Dichloropropene	100	U	2500	2200		ug/L		88	47 - 125	4	13
Cyclohexane	100	U	2500	2840		ug/L		113	42 - 147	2	35
Chlorodibromomethane	100	U	2500	2240		ug/L		90	65 - 120	2	13
Dichlorodifluoromethane	100	U	2500	1280		ug/L		51	38 - 139	0	35
Ethylbenzene	100	U	2500	2260		ug/L		90	67 - 127	3	15
Isopropylbenzene	100	U	2500	1830		ug/L		73	64 - 129	0	18
Methyl acetate	1000	U	5000	4870		ug/L		97	37 - 155	1	18
Methyl tert-butyl ether	100	U	2500	2340		ug/L		94	47 - 134	7	16

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188427-27 MSD

Matrix: Water

Analysis Batch: 581619

Client Sample ID: GW-11223983-071223-DR-026

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methylcyclohexane	100	U	2500	2220		ug/L		89	39 - 144	4	35
Methylene Chloride	500	U	2500	2260		ug/L		90	62 - 129	2	17
Styrene	100	U	2500	2030		ug/L		81	70 - 139	5	18
Tetrachloroethene	100	U	2500	2080		ug/L		83	62 - 131	6	20
Toluene	100	U	2500	2060		ug/L		82	58 - 135	2	14
trans-1,2-Dichloroethene	100	U	2500	2260		ug/L		91	56 - 136	3	15
trans-1,3-Dichloropropene	100	U	2500	2070		ug/L		83	47 - 120	4	14
Trichloroethene	100	U	2500	2260		ug/L		90	61 - 124	3	15
Trichlorofluoromethane	100	U	2500	1830		ug/L		73	24 - 177	1	34
Vinyl chloride	3200		2500	4710		ug/L		61	43 - 157	5	24
Xylenes, Total	200	U	5000	4090		ug/L		82	71 - 123	3	15
m-Xylene & p-Xylene	200	U	2500	2260		ug/L		91	71 - 123	3	16
o-Xylene	100	U	2500	1830		ug/L		73	70 - 125	2	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120
4-Bromofluorobenzene (Surr)	100		56 - 136
1,2-Dichloroethane-d4 (Surr)	108		62 - 137

Lab Sample ID: MB 240-581701/10

Matrix: Water

Analysis Batch: 581701

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/25/23 13:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/25/23 13:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/25/23 13:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/25/23 13:09	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/25/23 13:09	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/25/23 13:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/25/23 13:09	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/25/23 13:09	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/25/23 13:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/25/23 13:09	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/25/23 13:09	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/25/23 13:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/25/23 13:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/25/23 13:09	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/25/23 13:09	1
2-Hexanone	10	U	10	1.1	ug/L			07/25/23 13:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/25/23 13:09	1
Acetone	10	U	10	5.4	ug/L			07/25/23 13:09	1
Benzene	1.0	U	1.0	0.42	ug/L			07/25/23 13:09	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/25/23 13:09	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/25/23 13:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/25/23 13:09	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581701/10

Matrix: Water

Analysis Batch: 581701

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/25/23 13:09	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/25/23 13:09	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/25/23 13:09	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/25/23 13:09	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/25/23 13:09	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/25/23 13:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/25/23 13:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/25/23 13:09	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/25/23 13:09	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/25/23 13:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/25/23 13:09	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/25/23 13:09	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/25/23 13:09	1
Methyl acetate	10	U	10	1.7	ug/L			07/25/23 13:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/25/23 13:09	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/25/23 13:09	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/25/23 13:09	1
Styrene	1.0	U	1.0	0.45	ug/L			07/25/23 13:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/25/23 13:09	1
Toluene	1.0	U	1.0	0.44	ug/L			07/25/23 13:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/25/23 13:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/25/23 13:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/25/23 13:09	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/25/23 13:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/25/23 13:09	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/25/23 13:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		78 - 122		07/25/23 13:09	1
Dibromofluoromethane (Surr)	92		73 - 120		07/25/23 13:09	1
4-Bromofluorobenzene (Surr)	94		56 - 136		07/25/23 13:09	1
1,2-Dichloroethane-d4 (Surr)	89		62 - 137		07/25/23 13:09	1

Lab Sample ID: LCS 240-581701/6

Matrix: Water

Analysis Batch: 581701

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	17.9		ug/L		90	64 - 131
1,1,2,2-Tetrachloroethane	20.0	20.8		ug/L		104	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.0		ug/L		100	51 - 146
1,1,2-Trichloroethane	20.0	18.8		ug/L		94	70 - 138
1,1-Dichloroethane	20.0	18.4		ug/L		92	72 - 127
1,1-Dichloroethene	20.0	19.5		ug/L		97	63 - 134
1,2,4-Trichlorobenzene	20.0	16.6		ug/L		83	44 - 147
1,2-Dibromo-3-Chloropropane	20.0	17.2		ug/L		86	53 - 135
Ethylene Dibromide	20.0	18.9		ug/L		94	71 - 134

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581701/6

Matrix: Water

Analysis Batch: 581701

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	20.0	19.0		ug/L		95	78 - 120
1,2-Dichloroethane	20.0	15.9		ug/L		79	66 - 128
1,2-Dichloropropane	20.0	19.4		ug/L		97	75 - 133
1,3-Dichlorobenzene	20.0	19.5		ug/L		97	80 - 120
1,4-Dichlorobenzene	20.0	19.0		ug/L		95	80 - 120
2-Butanone (MEK)	40.0	36.1		ug/L		90	54 - 156
2-Hexanone	40.0	39.6		ug/L		99	43 - 167
4-Methyl-2-pentanone (MIBK)	40.0	37.1		ug/L		93	46 - 158
Acetone	40.0	29.2		ug/L		73	50 - 149
Benzene	20.0	19.1		ug/L		95	77 - 123
Dichlorobromomethane	20.0	17.2		ug/L		86	69 - 126
Bromoform	20.0	18.3		ug/L		92	57 - 129
Bromomethane	20.0	15.5		ug/L		77	36 - 142
Carbon disulfide	20.0	19.5		ug/L		97	43 - 140
Carbon tetrachloride	20.0	17.5		ug/L		87	55 - 137
Chlorobenzene	20.0	19.0		ug/L		95	80 - 121
Chloroethane	20.0	15.4		ug/L		77	38 - 152
Chloroform	20.0	17.7		ug/L		88	74 - 122
Chloromethane	20.0	17.0		ug/L		85	47 - 143
cis-1,2-Dichloroethene	20.0	18.1		ug/L		90	77 - 123
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	64 - 130
Cyclohexane	20.0	26.5		ug/L		132	58 - 146
Chlorodibromomethane	20.0	18.6		ug/L		93	70 - 124
Dichlorodifluoromethane	20.0	11.3		ug/L		56	34 - 153
Ethylbenzene	20.0	19.0		ug/L		95	80 - 121
Isopropylbenzene	20.0	19.2		ug/L		96	74 - 128
Methyl acetate	40.0	36.7		ug/L		92	42 - 169
Methyl tert-butyl ether	20.0	18.5		ug/L		93	65 - 126
Methylcyclohexane	20.0	20.0		ug/L		100	62 - 136
Methylene Chloride	20.0	17.5		ug/L		87	71 - 125
Styrene	20.0	19.7		ug/L		98	80 - 135
Tetrachloroethene	20.0	19.5		ug/L		98	76 - 123
Toluene	20.0	18.6		ug/L		93	80 - 123
trans-1,2-Dichloroethene	20.0	18.6		ug/L		93	75 - 124
trans-1,3-Dichloropropene	20.0	19.3		ug/L		97	57 - 129
Trichloroethene	20.0	18.1		ug/L		91	70 - 122
Trichlorofluoromethane	20.0	15.1		ug/L		76	30 - 170
Vinyl chloride	20.0	16.9		ug/L		85	60 - 144
Xylenes, Total	40.0	37.6		ug/L		94	80 - 121
m-Xylene & p-Xylene	20.0	18.9		ug/L		94	80 - 120
o-Xylene	20.0	18.7		ug/L		93	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120
4-Bromofluorobenzene (Surr)	97		56 - 136
1,2-Dichloroethane-d4 (Surr)	87		62 - 137

Eurofins Cleveland

Surrogate Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-188427-1	TB-11223983-071123	103	105	103	106
240-188427-2	GW-11223983-071123-DR-001	96	101	96	102
240-188427-3	GW-11223983-071123-DR-002	97	103	97	104
240-188427-4	GW-11223983-071123-DR-003	98	101	95	103
240-188427-5	GW-11223983-071123-DR-004	96	103	97	104
240-188427-6	GW-11223983-071123-DR-005	102	106	101	106
240-188427-7	GW-11223983-071123-DR-006	97	99	95	100
240-188427-7	GW-11223983-071123-DR-006	98	100	97	103
240-188427-8	GW-11223983-071123-DR-007	100	105	103	108
240-188427-9	GW-11223983-071123-DR-008	97	102	98	103
240-188427-9	GW-11223983-071123-DR-008	98	101	98	103
240-188427-10	GW-11223983-071123-DR-009	101	104	100	105
240-188427-11	GW-11223983-071123-DR-010	100	105	100	106
240-188427-12	GW-11223983-071123-DR-011	99	105	100	107
240-188427-13	GW-11223983-071123-DR-012	98	103	100	106
240-188427-14	GW-11223983-071223-DR-013	98	89	93	87
240-188427-15	GW-11223983-071223-DR-014	98	90	91	87
240-188427-15 MS	GW-11223983-071223-DR-014	100	92	95	85
240-188427-15 MSD	GW-11223983-071223-DR-014	101	92	97	86
240-188427-16	GW-11223983-071223-DR-015	98	90	92	86
240-188427-17	GW-11223983-071223-DR-016	100	90	93	90
240-188427-18	GW-11223983-071223-DR-017	101	93	93	87
240-188427-18	GW-11223983-071223-DR-017	98	90	93	88
240-188427-18	GW-11223983-071223-DR-017	99	93	94	90
240-188427-19	GW-11223983-071223-DR-018	97	91	94	87
240-188427-19	GW-11223983-071223-DR-018	98	91	94	89
240-188427-20	GW-11223983-071223-DR-019	94	115	85	122
240-188427-21	GW-11223983-071223-DR-020	95	116	84	121
240-188427-22	GW-11223983-071223-DR-021	94	112	90	122
240-188427-23	GW-11223983-071223-DR-022	92	117	84	126
240-188427-24	GW-11223983-071223-DR-023	93	117	84	128
240-188427-25	GW-11223983-071223-DR-024	93	112	82	120
240-188427-26	GW-11223983-071223-DR-025	92	113	80	120
240-188427-27	GW-11223983-071223-DR-026	93	116	83	126
240-188427-27 MS	GW-11223983-071223-DR-026	100	106	100	107
240-188427-27 MSD	GW-11223983-071223-DR-026	100	107	100	108
LCS 240-581512/5	Lab Control Sample	106	105	104	105
LCS 240-581555/6	Lab Control Sample	99	92	95	85
LCS 240-581615/5	Lab Control Sample	106	107	106	108
LCS 240-581619/5	Lab Control Sample	103	106	102	102
LCS 240-581701/6	Lab Control Sample	101	92	97	87
MB 240-581512/8	Method Blank	104	109	103	108
MB 240-581555/10	Method Blank	99	89	92	87
MB 240-581615/8	Method Blank	105	109	106	111
MB 240-581619/9	Method Blank	94	112	87	119
MB 240-581701/10	Method Blank	99	92	94	89

Surrogate Legend

TOL = Toluene-d8 (Surr)

Eurofins Cleveland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)

Job ID: 240-188427-1

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Client Sample ID: TB-11223983-071123

Lab Sample ID: 240-188427-1

Date Collected: 07/11/23 00:00

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 13:55

Client Sample ID: GW-11223983-071123-DR-001

Lab Sample ID: 240-188427-2

Date Collected: 07/11/23 09:45

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	581512	SAM	EET CLE	07/23/23 19:53

Client Sample ID: GW-11223983-071123-DR-002

Lab Sample ID: 240-188427-3

Date Collected: 07/11/23 09:50

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	581512	SAM	EET CLE	07/23/23 20:17

Client Sample ID: GW-11223983-071123-DR-003

Lab Sample ID: 240-188427-4

Date Collected: 07/11/23 10:00

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	581512	SAM	EET CLE	07/23/23 21:06

Client Sample ID: GW-11223983-071123-DR-004

Lab Sample ID: 240-188427-5

Date Collected: 07/11/23 10:40

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	581512	SAM	EET CLE	07/23/23 21:30

Client Sample ID: GW-11223983-071123-DR-005

Lab Sample ID: 240-188427-6

Date Collected: 07/11/23 09:35

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 16:41

Client Sample ID: GW-11223983-071123-DR-006

Lab Sample ID: 240-188427-7

Date Collected: 07/11/23 10:35

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	581512	SAM	EET CLE	07/23/23 20:42
Total/NA	Analysis	8260D		40	581615	SAM	EET CLE	07/24/23 22:27

Eurofins Cleveland

Lab Chronicle

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: GW-11223983-071123-DR-007

Lab Sample ID: 240-188427-8

Date Collected: 07/11/23 13:05

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 17:05

Client Sample ID: GW-11223983-071123-DR-008

Lab Sample ID: 240-188427-9

Date Collected: 07/11/23 13:10

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	581512	SAM	EET CLE	07/23/23 19:28
Total/NA	Analysis	8260D		10	581615	SAM	EET CLE	07/24/23 22:03

Client Sample ID: GW-11223983-071123-DR-009

Lab Sample ID: 240-188427-10

Date Collected: 07/11/23 12:30

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 17:29

Client Sample ID: GW-11223983-071123-DR-010

Lab Sample ID: 240-188427-11

Date Collected: 07/11/23 13:00

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 17:53

Client Sample ID: GW-11223983-071123-DR-011

Lab Sample ID: 240-188427-12

Date Collected: 07/11/23 14:20

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 18:16

Client Sample ID: GW-11223983-071123-DR-012

Lab Sample ID: 240-188427-13

Date Collected: 07/11/23 14:35

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581512	SAM	EET CLE	07/23/23 18:40

Client Sample ID: GW-11223983-071223-DR-013

Lab Sample ID: 240-188427-14

Date Collected: 07/12/23 08:20

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581555	HMB	EET CLE	07/24/23 13:43

Eurofins Cleveland

Lab Chronicle

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: GW-11223983-071223-DR-014

Lab Sample ID: 240-188427-15

Date Collected: 07/12/23 09:25

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581555	HMB	EET CLE	07/24/23 14:09

Client Sample ID: GW-11223983-071223-DR-015

Lab Sample ID: 240-188427-16

Date Collected: 07/12/23 11:05

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581555	HMB	EET CLE	07/24/23 14:35

Client Sample ID: GW-11223983-071223-DR-016

Lab Sample ID: 240-188427-17

Date Collected: 07/12/23 12:25

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581701	HMB	EET CLE	07/25/23 13:34

Client Sample ID: GW-11223983-071223-DR-017

Lab Sample ID: 240-188427-18

Date Collected: 07/12/23 10:30

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581555	HMB	EET CLE	07/24/23 15:26
Total/NA	Analysis	8260D		1000	581701	HMB	EET CLE	07/25/23 14:00
Total/NA	Analysis	8260D		5000	581701	HMB	EET CLE	07/25/23 18:15

Client Sample ID: GW-11223983-071223-DR-018

Lab Sample ID: 240-188427-19

Date Collected: 07/12/23 10:20

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	581555	HMB	EET CLE	07/24/23 15:51
Total/NA	Analysis	8260D		2	581701	HMB	EET CLE	07/25/23 14:25

Client Sample ID: GW-11223983-071223-DR-019

Lab Sample ID: 240-188427-20

Date Collected: 07/12/23 11:10

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	581619	CDG	EET CLE	07/24/23 18:14

Eurofins Cleveland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Client Sample ID: GW-11223983-071223-DR-020

Lab Sample ID: 240-188427-21

Date Collected: 07/12/23 11:15

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	581619	CDG	EET CLE	07/24/23 18:37

Client Sample ID: GW-11223983-071223-DR-021

Lab Sample ID: 240-188427-22

Date Collected: 07/12/23 11:30

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		25	581619	CDG	EET CLE	07/24/23 19:00

Client Sample ID: GW-11223983-071223-DR-022

Lab Sample ID: 240-188427-23

Date Collected: 07/12/23 11:50

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581619	CDG	EET CLE	07/24/23 19:24

Client Sample ID: GW-11223983-071223-DR-023

Lab Sample ID: 240-188427-24

Date Collected: 07/12/23 12:20

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	581619	CDG	EET CLE	07/24/23 19:47

Client Sample ID: GW-11223983-071223-DR-024

Lab Sample ID: 240-188427-25

Date Collected: 07/12/23 12:55

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	581619	CDG	EET CLE	07/24/23 20:10

Client Sample ID: GW-11223983-071223-DR-025

Lab Sample ID: 240-188427-26

Date Collected: 07/12/23 13:25

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	581619	CDG	EET CLE	07/24/23 20:34

Client Sample ID: GW-11223983-071223-DR-026

Lab Sample ID: 240-188427-27

Date Collected: 07/12/23 13:20

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	581619	CDG	EET CLE	07/24/23 20:57

Eurofins Cleveland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188427-1

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 240-188427-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

Client Information		Supplier: <u>D. Rivers</u>		Lab PM: <u>Heckler, Denise D</u>	Carrier Tracking No(s): <u>FE0 870</u>	COC No: <u>240-109897-39139.1</u>													
Client Contact: <u>Mr. James Abston</u>		Phone: <u>(734) 260-1589</u>		E-Mail: <u>Denise Heckler@eurofins.com</u>	State of Origin: <u>MI</u>	Page: <u>1 of 5</u>													
Company: <u>GHD Services Inc</u>		Address: <u>28850 Haggerty Rd.</u>		Job #: <u>11223983-702-Y23.03-Y23</u>															
City: <u>Farmington Hills</u>		State, Zip: <u>MI, 48331</u>		Analysis Requested															
Phone: <u>248-893-3381(Tel)</u>		TAT Requested (days): <u>STD TAT</u>		Preservation Codes:															
Email: <u>james.abston@ghd.com</u>		Compliance Project: <u>Δ Yes Δ No</u>		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Y - Trizma Z - other (specify)															
Project Name: <u>11223983, RACER Willow Run CVO</u>		Purchase Order Requested		Other:															
Project #: <u>24031010</u>		WO #: <u>11223983</u>																	
Site: <u>Ypsilanti, MI</u>		SSOW#: <u>11223983-702-Y23.03-Y23.002</u>																	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix (W=water, B=soil, O=water, A=air)		Field Filtered Sample (Yes or No)		Perforated SIMSD (Yes or No)		8260 - VOCs		Total Number of Containers		Special Instructions/Note:	
<u>TB-11223983-071123</u>		<u>7/11/23</u>		<u>-</u>		<u>-</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>1</u>			
<u>Gw</u>		<u>1002</u>		<u>945</u>		<u>G</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1003</u>		<u>950</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1004</u>		<u>1000</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1005</u>		<u>1040</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1006</u>		<u>935</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1007</u>		<u>1035</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1008</u>		<u>1305</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1009</u>		<u>1310</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1010</u>		<u>1230</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
<u>Gw</u>		<u>1010</u>		<u>1300</u>		<u>↓</u>		<u>Water</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>3</u>			
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant		☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)													
Deliverable Requested I, II, III, IV, Other (specify)		☐ Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months		Special Instructions/QC Requirements															
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:													
Relinquished by: <u>D. Rivers</u>		Date/Time: <u>7/12/23</u>		Date/Time: <u>1700</u>		Received by: <u>Ed Salazar</u>													
Relinquished by:		Date/Time:		Date/Time:		Received by:													
Relinquished by:		Date/Time:		Date/Time:		Received by:													
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:															
☐ Yes ☐ No																			

2013

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information Client Contact: Mr. James Abston Company: GHD Services Inc. Address: 26850 Haggerty Rd City: Farmington Hills State, Zip: MI, 48331 Phone: 248-893-3381 (Tel) Email: james.abston@ghd.com Project Name: 11223983, RACER Willow Run CVO Site: Ypsilanti, MI		Samples: D. Rivers Phone: (734) 260-1589 Lab PM: Heckler, Denise D E-Mail: Denise Heckler@et.eurofins.com Camer Tracking No(s): FEDEX State of Origin: MI Page 2 of 5		COC No: 240-109697-39139.2 Job # 11223983-702-Y23.03-Y23	
Due Date Requested: TAT Requested (days): STD Compliance Project: Δ Yes Δ No PO #: 11223983 Purchase Order Requested WO #: 24031010 Project #: 11223983 SOW #: 11223983-702-Y23.03-Y23-002		Analysis Requested Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)			
Sample Identification Sample ID: Gw-11223983-071225-DR-011 Sample ID: Gw-11223983-071223-DR-012 Sample ID: Gw-11223983-071223-DR-013 Sample ID: -014 Sample ID: -015 Sample ID: -016 Sample ID: -017 Sample ID: -018 Sample ID: -019 Sample ID: -020 Sample ID: -021		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 8260D - VOCs Matrix (W=water, S=solid, O=other, T=tissue, A=air) Sample Type (C=comp, G=grab) Sample Time Sample Date Preservation Code Matrix Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 8260D - VOCs			
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements:			
Empty Kit Relinquished by: D. Rivers Relinquished by: D. Rivers Relinquished by:		Time: Date: 7/12/23 1700 Company: GHD Received by: J. Lissgauer Date/Time: 7.13.23 9:20 Company: GHD Received by:			
Custody Seals Intact: Δ Yes Δ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

Eurofins Cleveland

180 S. Van Buren Avenue
Barberton, OH 44203

Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record



Environment Testing

3 of 3

Client Information Client Contact: Mr. James Abston Company: GHD Services Inc. Address: 26850 Haggerty Rd City: Farmington Hills State, Zip: MI, 48331 Phone: 248-893-3381 (Tel) Email: james.abston@ghd.com Project Name: 11223983, RACER Willow Run CVO Site: Ypsilanti, MI		Sampler: D. Rivers Lab PM: Heckler, Denise D E-Mail: Denise.Hackler@eurofins.com Phone: (734) 260-1589 PWSID:		Camera Tracking Not(s): FED EX State of Origin: MI Page 3 of 5 COC No: 240-109897-39139.3 Job #: 11223983-TOZ-Y23.03-Y23	
Due Date Requested: TAT Requested (days): STD Compliance Project: Δ Yes Δ No PO #: 248-893-3381 (Tel) WO #: 11223983 Project #: 24031010 SSOW#: 11223983-TOZ-Y23.03-Y23-002		Analysis Requested Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Sample Identification Sample ID: GW-11223983-071223-DR-022 Sample Date: 7/12/23 Sample Time: 1150 Sample Type: G-grab Matrix: Water Preservation Code: G		Field Filtered Sample (Yes or No) X Total Number of Containers 3			
Special Instructions/Note: Special Instructions/Note:		Special Instructions/Note:			
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months			
Empty Kit Relinquished by: D. Rivers Relinquished by: D. Rivers Relinquished by:		Method of Shipment:			
Date/Time: 7/12/23 1700 Date/Time: 7/12/23 1700 Date/Time:		Date/Time: 7/13/23 9:20 Date/Time:			
Company: GHD Company: GHD Company:		Company: Eurofins Company: Eurofins Company: Eurofins			
Custody Seal No.: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:			

Eurofins - Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : _____

Client GHP Site Name _____ Cooler unpacked by: M. Zou
Cooler Received on 7.13.23 Opened on 7.13.23
FedEx: 1st Gd Exp UPS FAS Clipper Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

Eurofins Cooler # 22 Foam Box Client Cooler Box Other _____Packing material used Bubble Wrap Foam Plastic Bag None Other _____COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler FormIR GUN # 22 (CF 0.1 °C) Observed Cooler Temp. 3.6 °C Corrected Cooler Temp. 3.5 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____

-Were the seals on the outside of the cooler(s) signed & dated?

Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes No NA

-Were tamper/custody seals intact and uncompromised?

Yes No NA

3. Shippers' packing slip attached to the cooler(s)?

Yes No

4. Did custody papers accompany the sample(s)?

Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?

Yes No

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10. Were correct bottle(s) used for the test(s) indicated?

Yes No

11. Sufficient quantity received to perform indicated analyses?

Yes No

12. Are these work share samples and all listed on the COC?

Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

Yes No NApH Strip Lot# 10BDH4321

14. Were VOAs on the COC?

Yes NoHC31250215. Were air bubbles >6 mm in any VOA vials?  Larger than this.Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____

Yes No

17. Was a LL Hg or Me Hg trip blank present? _____

Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 8/1/2023 11:06:44 AM

JOB DESCRIPTION

11223983, RACER Willow Run CVO

JOB NUMBER

240-188779-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
8/1/2023 11:06:44 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	8
Client Sample Results	9
QC Association Summary	29
QC Sample Results	30
Surrogate Summary	38
Lab Chronicle	39
Certification Summary	41
Chain of Custody	42



Case Narrative

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Job ID: 240-188779-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-188779-1

Comments

Due to an instrument malfunction, there is no reportable data for sample: TB-11223983-071423.

Receipt

The samples were received on 7/19/2023 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-581896 was outside the method criteria for the following analyte(s): Cyclohexane and Dichlorodifluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The matrix spike duplicate(MSD) was analyzed outside of tune time. Only used to report the generic MS/MSD for the tune.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-582082 was outside the method criteria for the following analyte(s): Dichlorodifluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-188779-2	GW-11223983-071423-DR-028	Water	07/14/23 11:00	07/19/23 10:15
240-188779-3	GW-11223983-071423-DR-029	Water	07/14/23 11:05	07/19/23 10:15
240-188779-4	GW-11223983-071423-DR-030	Water	07/14/23 10:55	07/19/23 10:15
240-188779-5	GW-11223983-071423-DR-031	Water	07/14/23 12:15	07/19/23 10:15
240-188779-6	GW-11223983-071423-DR-032	Water	07/14/23 12:55	07/19/23 10:15
240-188779-7	GW-11223983-071423-DR-027	Water	07/14/23 09:25	07/19/23 10:15
240-188779-8	GW-11223983-071723-DR-033	Water	07/17/23 09:15	07/19/23 10:15
240-188779-9	GW-11223983-071723-DR-034	Water	07/17/23 12:15	07/19/23 10:15
240-188779-10	GW-11223983-071823-DR-035	Water	07/18/23 09:40	07/19/23 10:15
240-188779-11	GW-11223983-071823-DR-036	Water	07/18/23 09:45	07/19/23 10:15

Detection Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Client Sample ID: GW-11223983-071423-DR-028

Lab Sample ID: 240-188779-2

No Detections.

Client Sample ID: GW-11223983-071423-DR-029

Lab Sample ID: 240-188779-3

No Detections.

Client Sample ID: GW-11223983-071423-DR-030

Lab Sample ID: 240-188779-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon tetrachloride	0.76	J	1.0	0.26	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	4.2		1.0	0.46	ug/L	1		8260D	Total/NA
Tetrachloroethene	1.3		1.0	0.44	ug/L	1		8260D	Total/NA
Trichloroethene	11		1.0	0.44	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071423-DR-031

Lab Sample ID: 240-188779-5

No Detections.

Client Sample ID: GW-11223983-071423-DR-032

Lab Sample ID: 240-188779-6

No Detections.

Client Sample ID: GW-11223983-071423-DR-027

Lab Sample ID: 240-188779-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5000		500	230	ug/L	500		8260D	Total/NA
trans-1,2-Dichloroethene	410	J	500	260	ug/L	500		8260D	Total/NA
Vinyl chloride	21000		500	230	ug/L	500		8260D	Total/NA
Xylenes, Total	440	J	1000	210	ug/L	500		8260D	Total/NA

Client Sample ID: GW-11223983-071723-DR-033

Lab Sample ID: 240-188779-8

No Detections.

Client Sample ID: GW-11223983-071723-DR-034

Lab Sample ID: 240-188779-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroethane	1.1		1.0	0.83	ug/L	1		8260D	Total/NA

Client Sample ID: GW-11223983-071823-DR-035

Lab Sample ID: 240-188779-10

No Detections.

Client Sample ID: GW-11223983-071823-DR-036

Lab Sample ID: 240-188779-11

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-028

Date Collected: 07/14/23 11:00

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 20:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 20:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 20:13	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 20:13	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 20:13	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 20:13	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 20:13	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 20:13	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 20:13	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 20:13	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 20:13	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 20:13	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 20:13	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 20:13	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 20:13	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 20:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 20:13	1
Acetone	10	U	10	5.4	ug/L			07/27/23 20:13	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 20:13	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 20:13	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 20:13	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 20:13	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 20:13	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 20:13	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 20:13	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 20:13	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 20:13	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 20:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 20:13	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 20:13	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 20:13	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 20:13	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 20:13	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 20:13	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 20:13	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 20:13	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 20:13	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 20:13	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 20:13	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 20:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 20:13	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 20:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 20:13	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 20:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 20:13	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 20:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 20:13	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 20:13	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	95		78 - 122		07/27/23 20:13	1
<i>Dibromofluoromethane (Surr)</i>	99		73 - 120		07/27/23 20:13	1
<i>4-Bromofluorobenzene (Surr)</i>	94		56 - 136		07/27/23 20:13	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		62 - 137		07/27/23 20:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-029

Date Collected: 07/14/23 11:05

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 20:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 20:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 20:37	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 20:37	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 20:37	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 20:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 20:37	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 20:37	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 20:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 20:37	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 20:37	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 20:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 20:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 20:37	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 20:37	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 20:37	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 20:37	1
Acetone	10	U	10	5.4	ug/L			07/27/23 20:37	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 20:37	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 20:37	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 20:37	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 20:37	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 20:37	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 20:37	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 20:37	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 20:37	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 20:37	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 20:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 20:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 20:37	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 20:37	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 20:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 20:37	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 20:37	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 20:37	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 20:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 20:37	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 20:37	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 20:37	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 20:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 20:37	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 20:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 20:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 20:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 20:37	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 20:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 20:37	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 20:37	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	94		78 - 122		07/27/23 20:37	1
<i>Dibromofluoromethane (Surr)</i>	97		73 - 120		07/27/23 20:37	1
<i>4-Bromofluorobenzene (Surr)</i>	93		56 - 136		07/27/23 20:37	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	91		62 - 137		07/27/23 20:37	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-030

Date Collected: 07/14/23 10:55

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 21:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 21:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:00	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 21:00	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 21:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 21:00	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 21:00	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 21:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 21:00	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 21:00	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 21:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 21:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 21:00	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 21:00	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 21:00	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 21:00	1
Acetone	10	U	10	5.4	ug/L			07/27/23 21:00	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:00	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 21:00	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 21:00	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 21:00	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 21:00	1
Carbon tetrachloride	0.76	J	1.0	0.26	ug/L			07/27/23 21:00	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 21:00	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 21:00	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 21:00	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 21:00	1
cis-1,2-Dichloroethene	4.2		1.0	0.46	ug/L			07/27/23 21:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 21:00	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 21:00	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 21:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 21:00	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:00	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 21:00	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 21:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 21:00	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 21:00	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 21:00	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 21:00	1
Tetrachloroethene	1.3		1.0	0.44	ug/L			07/27/23 21:00	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 21:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 21:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 21:00	1
Trichloroethene	11		1.0	0.44	ug/L			07/27/23 21:00	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 21:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 21:00	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 21:00	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	94		78 - 122		07/27/23 21:00	1
<i>Dibromofluoromethane (Surr)</i>	97		73 - 120		07/27/23 21:00	1
<i>4-Bromofluorobenzene (Surr)</i>	92		56 - 136		07/27/23 21:00	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		62 - 137		07/27/23 21:00	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-031

Date Collected: 07/14/23 12:15

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:24	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 21:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 21:24	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:24	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 21:24	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 21:24	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 21:24	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 21:24	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 21:24	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 21:24	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 21:24	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 21:24	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 21:24	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 21:24	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 21:24	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 21:24	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 21:24	1
Acetone	10	U	10	5.4	ug/L			07/27/23 21:24	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:24	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 21:24	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 21:24	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 21:24	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 21:24	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 21:24	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 21:24	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 21:24	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 21:24	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 21:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 21:24	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 21:24	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 21:24	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 21:24	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 21:24	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:24	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 21:24	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 21:24	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 21:24	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 21:24	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 21:24	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 21:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 21:24	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 21:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 21:24	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 21:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 21:24	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 21:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 21:24	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 21:24	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	93		78 - 122		07/27/23 21:24	1
<i>Dibromofluoromethane (Surr)</i>	95		73 - 120		07/27/23 21:24	1
<i>4-Bromofluorobenzene (Surr)</i>	92		56 - 136		07/27/23 21:24	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	91		62 - 137		07/27/23 21:24	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-032

Date Collected: 07/14/23 12:55

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:48	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 21:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 21:48	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 21:48	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 21:48	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 21:48	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 21:48	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 21:48	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 21:48	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 21:48	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 21:48	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 21:48	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 21:48	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 21:48	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 21:48	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 21:48	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 21:48	1
Acetone	10	U	10	5.4	ug/L			07/27/23 21:48	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:48	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 21:48	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 21:48	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 21:48	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 21:48	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 21:48	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 21:48	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 21:48	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 21:48	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 21:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 21:48	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 21:48	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 21:48	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 21:48	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 21:48	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 21:48	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 21:48	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 21:48	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 21:48	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 21:48	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 21:48	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 21:48	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 21:48	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 21:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 21:48	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 21:48	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 21:48	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 21:48	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 21:48	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 21:48	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	97		78 - 122		07/27/23 21:48	1
<i>Dibromofluoromethane (Surr)</i>	101		73 - 120		07/27/23 21:48	1
<i>4-Bromofluorobenzene (Surr)</i>	96		56 - 136		07/27/23 21:48	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	94		62 - 137		07/27/23 21:48	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071423-DR-027

Date Collected: 07/14/23 09:25

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	500	U	500	240	ug/L			07/26/23 20:05	500
1,1,2,2-Tetrachloroethane	500	U	500	300	ug/L			07/26/23 20:05	500
1,1,2-Trichloro-1,2,2-trifluoroethane	500	U	500	210	ug/L			07/26/23 20:05	500
1,1,2-Trichloroethane	500	U	500	240	ug/L			07/26/23 20:05	500
1,1-Dichloroethane	500	U	500	240	ug/L			07/26/23 20:05	500
1,1-Dichloroethene	500	U	500	250	ug/L			07/26/23 20:05	500
1,2,4-Trichlorobenzene	500	U	500	390	ug/L			07/26/23 20:05	500
1,2-Dibromo-3-Chloropropane	1000	U	1000	460	ug/L			07/26/23 20:05	500
Ethylene Dibromide	500	U	500	210	ug/L			07/26/23 20:05	500
1,2-Dichlorobenzene	500	U	500	240	ug/L			07/26/23 20:05	500
1,2-Dichloroethane	500	U	500	230	ug/L			07/26/23 20:05	500
1,2-Dichloropropane	500	U	500	240	ug/L			07/26/23 20:05	500
1,3-Dichlorobenzene	500	U	500	230	ug/L			07/26/23 20:05	500
1,4-Dichlorobenzene	500	U	500	210	ug/L			07/26/23 20:05	500
2-Butanone (MEK)	5000	U	5000	580	ug/L			07/26/23 20:05	500
2-Hexanone	5000	U	5000	560	ug/L			07/26/23 20:05	500
4-Methyl-2-pentanone (MIBK)	5000	U	5000	500	ug/L			07/26/23 20:05	500
Acetone	5000	U	5000	2700	ug/L			07/26/23 20:05	500
Benzene	500	U	500	210	ug/L			07/26/23 20:05	500
Dichlorobromomethane	500	U	500	190	ug/L			07/26/23 20:05	500
Bromoform	500	U	500	380	ug/L			07/26/23 20:05	500
Bromomethane	500	U	500	210	ug/L			07/26/23 20:05	500
Carbon disulfide	500	U	500	300	ug/L			07/26/23 20:05	500
Carbon tetrachloride	500	U	500	130	ug/L			07/26/23 20:05	500
Chlorobenzene	500	U	500	190	ug/L			07/26/23 20:05	500
Chloroethane	500	U	500	420	ug/L			07/26/23 20:05	500
Chloroform	500	U	500	240	ug/L			07/26/23 20:05	500
Chloromethane	500	U	500	320	ug/L			07/26/23 20:05	500
cis-1,2-Dichloroethene	5000		500	230	ug/L			07/26/23 20:05	500
cis-1,3-Dichloropropene	500	U	500	310	ug/L			07/26/23 20:05	500
Cyclohexane	500	U	500	240	ug/L			07/26/23 20:05	500
Chlorodibromomethane	500	U	500	200	ug/L			07/26/23 20:05	500
Dichlorodifluoromethane	500	U	500	180	ug/L			07/26/23 20:05	500
Ethylbenzene	500	U	500	210	ug/L			07/26/23 20:05	500
Isopropylbenzene	500	U	500	250	ug/L			07/26/23 20:05	500
Methyl acetate	5000	U	5000	860	ug/L			07/26/23 20:05	500
Methyl tert-butyl ether	500	U	500	240	ug/L			07/26/23 20:05	500
Methylcyclohexane	500	U	500	170	ug/L			07/26/23 20:05	500
Methylene Chloride	2500	U	2500	1300	ug/L			07/26/23 20:05	500
Styrene	500	U	500	230	ug/L			07/26/23 20:05	500
Tetrachloroethene	500	U	500	220	ug/L			07/26/23 20:05	500
Toluene	500	U	500	220	ug/L			07/26/23 20:05	500
trans-1,2-Dichloroethene	410	J	500	260	ug/L			07/26/23 20:05	500
trans-1,3-Dichloropropene	500	U	500	340	ug/L			07/26/23 20:05	500
Trichloroethene	500	U	500	220	ug/L			07/26/23 20:05	500
Trichlorofluoromethane	500	U	500	230	ug/L			07/26/23 20:05	500
Vinyl chloride	21000		500	230	ug/L			07/26/23 20:05	500
Xylenes, Total	440	J	1000	210	ug/L			07/26/23 20:05	500

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	94		78 - 122		07/26/23 20:05	500
<i>Dibromofluoromethane (Surr)</i>	114		73 - 120		07/26/23 20:05	500
<i>4-Bromofluorobenzene (Surr)</i>	87		56 - 136		07/26/23 20:05	500
<i>1,2-Dichloroethane-d4 (Surr)</i>	121		62 - 137		07/26/23 20:05	500

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071723-DR-033

Date Collected: 07/17/23 09:15

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 22:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 22:12	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:12	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 22:12	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 22:12	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 22:12	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 22:12	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 22:12	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 22:12	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 22:12	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 22:12	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 22:12	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 22:12	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 22:12	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 22:12	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 22:12	1
Acetone	10	U	10	5.4	ug/L			07/27/23 22:12	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:12	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 22:12	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 22:12	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 22:12	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 22:12	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 22:12	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 22:12	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 22:12	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 22:12	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 22:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 22:12	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 22:12	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 22:12	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 22:12	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 22:12	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:12	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 22:12	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 22:12	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 22:12	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 22:12	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 22:12	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 22:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:12	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 22:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 22:12	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 22:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:12	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 22:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 22:12	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 22:12	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		78 - 122		07/27/23 22:12	1
<i>Dibromofluoromethane (Surr)</i>	103		73 - 120		07/27/23 22:12	1
<i>4-Bromofluorobenzene (Surr)</i>	97		56 - 136		07/27/23 22:12	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	97		62 - 137		07/27/23 22:12	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071723-DR-034

Date Collected: 07/17/23 12:15

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 22:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 22:36	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:36	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 22:36	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 22:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 22:36	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 22:36	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 22:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 22:36	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 22:36	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 22:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 22:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 22:36	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 22:36	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 22:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 22:36	1
Acetone	10	U	10	5.4	ug/L			07/27/23 22:36	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:36	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 22:36	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 22:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 22:36	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 22:36	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 22:36	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 22:36	1
Chloroethane	1.1		1.0	0.83	ug/L			07/27/23 22:36	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 22:36	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 22:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 22:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 22:36	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 22:36	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 22:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 22:36	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:36	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 22:36	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 22:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 22:36	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 22:36	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 22:36	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 22:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:36	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 22:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 22:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 22:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:36	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 22:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 22:36	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 22:36	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	94		78 - 122		07/27/23 22:36	1
<i>Dibromofluoromethane (Surr)</i>	96		73 - 120		07/27/23 22:36	1
<i>4-Bromofluorobenzene (Surr)</i>	93		56 - 136		07/27/23 22:36	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	89		62 - 137		07/27/23 22:36	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071823-DR-035

Date Collected: 07/18/23 09:40

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:59	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 22:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 22:59	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 22:59	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 22:59	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 22:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 22:59	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 22:59	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 22:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 22:59	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 22:59	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 22:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 22:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 22:59	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 22:59	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 22:59	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 22:59	1
Acetone	10	U	10	5.4	ug/L			07/27/23 22:59	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:59	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 22:59	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 22:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 22:59	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 22:59	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 22:59	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 22:59	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 22:59	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 22:59	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 22:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 22:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 22:59	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 22:59	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 22:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 22:59	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 22:59	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 22:59	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 22:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 22:59	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 22:59	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 22:59	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 22:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:59	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 22:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 22:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 22:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 22:59	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 22:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 22:59	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 22:59	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	96		78 - 122		07/27/23 22:59	1
<i>Dibromofluoromethane (Surr)</i>	99		73 - 120		07/27/23 22:59	1
<i>4-Bromofluorobenzene (Surr)</i>	97		56 - 136		07/27/23 22:59	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	96		62 - 137		07/27/23 22:59	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: GW-11223983-071823-DR-036

Date Collected: 07/18/23 09:45

Date Received: 07/19/23 10:15

Lab Sample ID: 240-188779-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 23:23	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 23:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 23:23	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 23:23	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 23:23	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 23:23	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 23:23	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 23:23	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 23:23	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 23:23	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 23:23	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 23:23	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 23:23	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 23:23	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 23:23	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 23:23	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 23:23	1
Acetone	10	U	10	5.4	ug/L			07/27/23 23:23	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 23:23	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 23:23	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 23:23	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 23:23	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 23:23	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 23:23	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 23:23	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 23:23	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 23:23	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 23:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 23:23	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 23:23	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 23:23	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 23:23	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 23:23	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 23:23	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 23:23	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 23:23	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 23:23	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 23:23	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 23:23	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 23:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 23:23	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 23:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 23:23	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 23:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 23:23	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 23:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 23:23	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 23:23	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	95		78 - 122		07/27/23 23:23	1
<i>Dibromofluoromethane (Surr)</i>	97		73 - 120		07/27/23 23:23	1
<i>4-Bromofluorobenzene (Surr)</i>	93		56 - 136		07/27/23 23:23	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	92		62 - 137		07/27/23 23:23	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

GC/MS VOA

Analysis Batch: 581896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188779-7	GW-11223983-071423-DR-027	Total/NA	Water	8260D	
MB 240-581896/9	Method Blank	Total/NA	Water	8260D	
LCS 240-581896/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 582082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188779-2	GW-11223983-071423-DR-028	Total/NA	Water	8260D	
240-188779-3	GW-11223983-071423-DR-029	Total/NA	Water	8260D	
240-188779-4	GW-11223983-071423-DR-030	Total/NA	Water	8260D	
240-188779-5	GW-11223983-071423-DR-031	Total/NA	Water	8260D	
240-188779-6	GW-11223983-071423-DR-032	Total/NA	Water	8260D	
240-188779-8	GW-11223983-071723-DR-033	Total/NA	Water	8260D	
240-188779-9	GW-11223983-071723-DR-034	Total/NA	Water	8260D	
240-188779-10	GW-11223983-071823-DR-035	Total/NA	Water	8260D	
240-188779-11	GW-11223983-071823-DR-036	Total/NA	Water	8260D	
MB 240-582082/8	Method Blank	Total/NA	Water	8260D	
LCS 240-582082/5	Lab Control Sample	Total/NA	Water	8260D	
240-188779-8 MS	GW-11223983-071723-DR-033	Total/NA	Water	8260D	
240-188779-8 MSD	GW-11223983-071723-DR-033	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-581896/9

Matrix: Water

Analysis Batch: 581896

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/26/23 14:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/26/23 14:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/26/23 14:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/26/23 14:15	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/26/23 14:15	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/26/23 14:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/26/23 14:15	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/26/23 14:15	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/26/23 14:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/26/23 14:15	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/26/23 14:15	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/26/23 14:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/26/23 14:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/26/23 14:15	1
2-Butanone (MEK)	1.23	J	10	1.2	ug/L			07/26/23 14:15	1
2-Hexanone	10	U	10	1.1	ug/L			07/26/23 14:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/26/23 14:15	1
Acetone	10	U	10	5.4	ug/L			07/26/23 14:15	1
Benzene	1.0	U	1.0	0.42	ug/L			07/26/23 14:15	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/26/23 14:15	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/26/23 14:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/26/23 14:15	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/26/23 14:15	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/26/23 14:15	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/26/23 14:15	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/26/23 14:15	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/26/23 14:15	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/26/23 14:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/26/23 14:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/26/23 14:15	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/26/23 14:15	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/26/23 14:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/26/23 14:15	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/26/23 14:15	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/26/23 14:15	1
Methyl acetate	10	U	10	1.7	ug/L			07/26/23 14:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/26/23 14:15	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/26/23 14:15	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/26/23 14:15	1
Styrene	1.0	U	1.0	0.45	ug/L			07/26/23 14:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/26/23 14:15	1
Toluene	1.0	U	1.0	0.44	ug/L			07/26/23 14:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/26/23 14:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/26/23 14:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/26/23 14:15	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/26/23 14:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/26/23 14:15	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/26/23 14:15	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581896/9

Matrix: Water

Analysis Batch: 581896

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		78 - 122		07/26/23 14:15	1
Dibromofluoromethane (Surr)	110		73 - 120		07/26/23 14:15	1
4-Bromofluorobenzene (Surr)	89		56 - 136		07/26/23 14:15	1
1,2-Dichloroethane-d4 (Surr)	120		62 - 137		07/26/23 14:15	1

Lab Sample ID: LCS 240-581896/5

Matrix: Water

Analysis Batch: 581896

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	25.7		ug/L		103	64 - 131
1,1,1,2,2-Tetrachloroethane	25.0	23.7		ug/L		95	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.2		ug/L		105	51 - 146
1,1,2-Trichloroethane	25.0	24.5		ug/L		98	70 - 138
1,1-Dichloroethane	25.0	24.3		ug/L		97	72 - 127
1,1-Dichloroethene	25.0	25.6		ug/L		103	63 - 134
1,2,4-Trichlorobenzene	25.0	22.1		ug/L		88	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	20.6		ug/L		82	53 - 135
Ethylene Dibromide	25.0	23.9		ug/L		96	71 - 134
1,2-Dichlorobenzene	25.0	23.5		ug/L		94	78 - 120
1,2-Dichloroethane	25.0	25.7		ug/L		103	66 - 128
1,2-Dichloropropane	25.0	25.1		ug/L		100	75 - 133
1,3-Dichlorobenzene	25.0	24.8		ug/L		99	80 - 120
1,4-Dichlorobenzene	25.0	22.9		ug/L		91	80 - 120
2-Butanone (MEK)	50.0	60.8		ug/L		122	54 - 156
2-Hexanone	50.0	55.1		ug/L		110	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	50.8		ug/L		102	46 - 158
Acetone	50.0	62.4		ug/L		125	50 - 149
Benzene	25.0	23.9		ug/L		96	77 - 123
Dichlorobromomethane	25.0	23.9		ug/L		96	69 - 126
Bromoform	25.0	22.3		ug/L		89	57 - 129
Bromomethane	25.0	15.4		ug/L		62	36 - 142
Carbon disulfide	25.0	25.0		ug/L		100	43 - 140
Carbon tetrachloride	25.0	25.1		ug/L		100	55 - 137
Chlorobenzene	25.0	23.3		ug/L		93	80 - 121
Chloroethane	25.0	17.4		ug/L		70	38 - 152
Chloroform	25.0	24.8		ug/L		99	74 - 122
Chloromethane	25.0	18.2		ug/L		73	47 - 143
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	77 - 123
cis-1,3-Dichloropropene	25.0	22.7		ug/L		91	64 - 130
Cyclohexane	25.0	30.4		ug/L		122	58 - 146
Chlorodibromomethane	25.0	24.7		ug/L		99	70 - 124
Dichlorodifluoromethane	25.0	13.5		ug/L		54	34 - 153
Ethylbenzene	25.0	24.9		ug/L		100	80 - 121
Isopropylbenzene	25.0	21.8		ug/L		87	74 - 128
Methyl acetate	50.0	48.3		ug/L		97	42 - 169
Methyl tert-butyl ether	25.0	23.4		ug/L		93	65 - 126
Methylcyclohexane	25.0	25.4		ug/L		102	62 - 136

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581896/5

Matrix: Water

Analysis Batch: 581896

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	25.0	23.1		ug/L		92	71 - 125
Styrene	25.0	23.0		ug/L		92	80 - 135
Tetrachloroethene	25.0	24.1		ug/L		96	76 - 123
Toluene	25.0	22.6		ug/L		91	80 - 123
trans-1,2-Dichloroethene	25.0	24.4		ug/L		98	75 - 124
trans-1,3-Dichloropropene	25.0	22.2		ug/L		89	57 - 129
Trichloroethene	25.0	23.8		ug/L		95	70 - 122
Trichlorofluoromethane	25.0	20.0		ug/L		80	30 - 170
Vinyl chloride	25.0	19.8		ug/L		79	60 - 144
Xylenes, Total	50.0	47.5		ug/L		95	80 - 121
m-Xylene & p-Xylene	25.0	26.3		ug/L		105	80 - 120
o-Xylene	25.0	21.2		ug/L		85	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120
4-Bromofluorobenzene (Surr)	102		56 - 136
1,2-Dichloroethane-d4 (Surr)	105		62 - 137

Lab Sample ID: MB 240-582082/8

Matrix: Water

Analysis Batch: 582082

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 18:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/27/23 18:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/27/23 18:37	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/27/23 18:37	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/27/23 18:37	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/27/23 18:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/27/23 18:37	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/27/23 18:37	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/27/23 18:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/27/23 18:37	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/27/23 18:37	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/27/23 18:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/27/23 18:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/27/23 18:37	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/27/23 18:37	1
2-Hexanone	10	U	10	1.1	ug/L			07/27/23 18:37	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/27/23 18:37	1
Acetone	10	U	10	5.4	ug/L			07/27/23 18:37	1
Benzene	1.0	U	1.0	0.42	ug/L			07/27/23 18:37	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/27/23 18:37	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/27/23 18:37	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/27/23 18:37	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/27/23 18:37	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/27/23 18:37	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-582082/8

Matrix: Water

Analysis Batch: 582082

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/27/23 18:37	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/27/23 18:37	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/27/23 18:37	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/27/23 18:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/27/23 18:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/27/23 18:37	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/27/23 18:37	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/27/23 18:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/27/23 18:37	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/27/23 18:37	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/27/23 18:37	1
Methyl acetate	10	U	10	1.7	ug/L			07/27/23 18:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/27/23 18:37	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/27/23 18:37	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/27/23 18:37	1
Styrene	1.0	U	1.0	0.45	ug/L			07/27/23 18:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 18:37	1
Toluene	1.0	U	1.0	0.44	ug/L			07/27/23 18:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/27/23 18:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/27/23 18:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/27/23 18:37	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/27/23 18:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/27/23 18:37	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/27/23 18:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		78 - 122		07/27/23 18:37	1
Dibromofluoromethane (Surr)	99		73 - 120		07/27/23 18:37	1
4-Bromofluorobenzene (Surr)	96		56 - 136		07/27/23 18:37	1
1,2-Dichloroethane-d4 (Surr)	94		62 - 137		07/27/23 18:37	1

Lab Sample ID: LCS 240-582082/5

Matrix: Water

Analysis Batch: 582082

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	23.3		ug/L		93	64 - 131
1,1,2,2-Tetrachloroethane	25.0	22.3		ug/L		89	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.7		ug/L		95	51 - 146
1,1,2-Trichloroethane	25.0	24.4		ug/L		98	70 - 138
1,1-Dichloroethane	25.0	23.3		ug/L		93	72 - 127
1,1-Dichloroethene	25.0	24.7		ug/L		99	63 - 134
1,2,4-Trichlorobenzene	25.0	26.7		ug/L		107	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	22.3		ug/L		89	53 - 135
Ethylene Dibromide	25.0	25.0		ug/L		100	71 - 134
1,2-Dichlorobenzene	25.0	25.3		ug/L		101	78 - 120
1,2-Dichloroethane	25.0	22.5		ug/L		90	66 - 128
1,2-Dichloropropane	25.0	23.9		ug/L		96	75 - 133

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-582082/5

Matrix: Water

Analysis Batch: 582082

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	25.0	25.0		ug/L		100	80 - 120
1,4-Dichlorobenzene	25.0	25.2		ug/L		101	80 - 120
2-Butanone (MEK)	50.0	50.1		ug/L		100	54 - 156
2-Hexanone	50.0	46.0		ug/L		92	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	42.8		ug/L		86	46 - 158
Acetone	50.0	49.1		ug/L		98	50 - 149
Benzene	25.0	24.8		ug/L		99	77 - 123
Dichlorobromomethane	25.0	22.4		ug/L		90	69 - 126
Bromoform	25.0	23.3		ug/L		93	57 - 129
Bromomethane	12.5	12.1		ug/L		97	36 - 142
Carbon disulfide	25.0	24.5		ug/L		98	43 - 140
Carbon tetrachloride	25.0	23.5		ug/L		94	55 - 137
Chlorobenzene	25.0	24.8		ug/L		99	80 - 121
Chloroethane	12.5	11.2		ug/L		90	38 - 152
Chloroform	25.0	24.3		ug/L		97	74 - 122
Chloromethane	12.5	9.40		ug/L		75	47 - 143
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	77 - 123
cis-1,3-Dichloropropene	25.0	21.3		ug/L		85	64 - 130
Cyclohexane	25.0	23.4		ug/L		94	58 - 146
Chlorodibromomethane	25.0	23.2		ug/L		93	70 - 124
Dichlorodifluoromethane	12.5	8.41		ug/L		67	34 - 153
Ethylbenzene	25.0	24.7		ug/L		99	80 - 121
Isopropylbenzene	25.0	25.3		ug/L		101	74 - 128
Methyl acetate	50.0	42.6		ug/L		85	42 - 169
Methyl tert-butyl ether	25.0	24.0		ug/L		96	65 - 126
Methylcyclohexane	25.0	23.7		ug/L		95	62 - 136
Methylene Chloride	25.0	25.7		ug/L		103	71 - 125
Styrene	25.0	24.7		ug/L		99	80 - 135
Tetrachloroethene	25.0	25.8		ug/L		103	76 - 123
Toluene	25.0	23.9		ug/L		96	80 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
trans-1,3-Dichloropropene	25.0	22.2		ug/L		89	57 - 129
Trichloroethene	25.0	26.8		ug/L		107	70 - 122
Trichlorofluoromethane	12.5	10.3		ug/L		82	30 - 170
Vinyl chloride	12.5	9.95		ug/L		80	60 - 144
Xylenes, Total	50.0	49.0		ug/L		98	80 - 121
m-Xylene & p-Xylene	25.0	24.8		ug/L		99	80 - 120
o-Xylene	25.0	24.2		ug/L		97	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120
4-Bromofluorobenzene (Surr)	97		56 - 136
1,2-Dichloroethane-d4 (Surr)	90		62 - 137

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188779-8 MS

Matrix: Water

Analysis Batch: 582082

Client Sample ID: GW-11223983-071723-DR-033

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.0	U	25.0	20.4		ug/L		82	60 - 130
1,1,2,2-Tetrachloroethane	1.0	U	25.0	22.4		ug/L		90	54 - 145
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	25.0	20.8		ug/L		83	41 - 147
1,1,2-Trichloroethane	1.0	U	25.0	22.3		ug/L		89	69 - 131
1,1-Dichloroethane	1.0	U	25.0	21.7		ug/L		87	68 - 125
1,1-Dichloroethene	1.0	U	25.0	22.3		ug/L		89	56 - 135
1,2,4-Trichlorobenzene	1.0	U	25.0	23.4		ug/L		94	29 - 156
1,2-Dibromo-3-Chloropropane	2.0	U	25.0	20.6		ug/L		82	41 - 129
Ethylene Dibromide	1.0	U	25.0	22.4		ug/L		90	69 - 125
1,2-Dichlorobenzene	1.0	U	25.0	22.2		ug/L		89	73 - 120
1,2-Dichloroethane	1.0	U	25.0	20.9		ug/L		84	63 - 126
1,2-Dichloropropane	1.0	U	25.0	22.0		ug/L		88	69 - 130
1,3-Dichlorobenzene	1.0	U	25.0	21.5		ug/L		86	73 - 120
1,4-Dichlorobenzene	1.0	U	25.0	21.7		ug/L		87	74 - 120
2-Butanone (MEK)	10	U	50.0	47.3		ug/L		95	40 - 151
2-Hexanone	10	U	50.0	41.5		ug/L		83	35 - 156
4-Methyl-2-pentanone (MIBK)	10	U	50.0	40.0		ug/L		80	31 - 153
Acetone	10	U	50.0	44.7		ug/L		89	33 - 149
Benzene	1.0	U	25.0	22.6		ug/L		90	64 - 128
Dichlorobromomethane	1.0	U	25.0	20.4		ug/L		81	62 - 125
Bromoform	1.0	U	25.0	19.8		ug/L		79	47 - 125
Bromomethane	1.0	U	12.5	3.82		ug/L		31	28 - 150
Carbon disulfide	1.0	U	25.0	21.5		ug/L		86	38 - 140
Carbon tetrachloride	1.0	U	25.0	19.7		ug/L		79	51 - 133
Chlorobenzene	1.0	U	25.0	21.6		ug/L		86	74 - 121
Chloroethane	1.0	U	12.5	13.3		ug/L		106	10 - 199
Chloroform	1.0	U	25.0	22.3		ug/L		89	70 - 122
Chloromethane	1.0	U	12.5	8.32		ug/L		67	32 - 149
cis-1,2-Dichloroethene	1.0	U	25.0	22.6		ug/L		90	66 - 128
cis-1,3-Dichloropropene	1.0	U	25.0	18.5		ug/L		74	47 - 125
Cyclohexane	1.0	U	25.0	19.9		ug/L		80	42 - 147
Chlorodibromomethane	1.0	U	25.0	20.2		ug/L		81	65 - 120
Dichlorodifluoromethane	1.0	U	12.5	8.34		ug/L		67	38 - 139
Ethylbenzene	1.0	U	25.0	20.7		ug/L		83	67 - 127
Isopropylbenzene	1.0	U	25.0	20.9		ug/L		84	64 - 129
Methyl acetate	10	U	50.0	38.6		ug/L		77	37 - 155
Methyl tert-butyl ether	1.0	U	25.0	22.4		ug/L		89	47 - 134
Methylcyclohexane	1.0	U	25.0	19.9		ug/L		80	39 - 144
Methylene Chloride	5.0	U	25.0	23.2		ug/L		93	62 - 129
Styrene	1.0	U	25.0	21.1		ug/L		84	70 - 139
Tetrachloroethene	1.0	U	25.0	21.8		ug/L		87	62 - 131
Toluene	1.0	U	25.0	20.4		ug/L		82	58 - 135
trans-1,2-Dichloroethene	1.0	U	25.0	22.4		ug/L		90	56 - 136
trans-1,3-Dichloropropene	1.0	U	25.0	18.3		ug/L		73	47 - 120
Trichloroethene	1.0	U	25.0	22.1		ug/L		88	61 - 124
Trichlorofluoromethane	1.0	U	12.5	9.52		ug/L		76	24 - 177
Vinyl chloride	1.0	U	12.5	9.38		ug/L		75	43 - 157
Xylenes, Total	2.0	U	50.0	41.6		ug/L		83	71 - 123

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188779-8 MS

Matrix: Water

Analysis Batch: 582082

Client Sample ID: GW-11223983-071723-DR-033

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m-Xylene & p-Xylene	2.0	U	25.0	21.0		ug/L		84	71 - 123
o-Xylene	1.0	U	25.0	20.6		ug/L		82	70 - 125
Surrogate	MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	96		78 - 122						
Dibromofluoromethane (Surr)	97		73 - 120						
4-Bromofluorobenzene (Surr)	97		56 - 136						
1,2-Dichloroethane-d4 (Surr)	94		62 - 137						

Lab Sample ID: 240-188779-8 MSD

Matrix: Water

Analysis Batch: 582082

Client Sample ID: GW-11223983-071723-DR-033

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.0	U	25.0	20.0		ug/L		80	60 - 130	2	17
1,1,2,2-Tetrachloroethane	1.0	U	25.0	22.7		ug/L		91	54 - 145	1	15
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	25.0	20.4		ug/L		82	41 - 147	2	35
1,1,2-Trichloroethane	1.0	U	25.0	22.4		ug/L		90	69 - 131	0	14
1,1-Dichloroethane	1.0	U	25.0	21.2		ug/L		85	68 - 125	2	13
1,1-Dichloroethene	1.0	U	25.0	21.6		ug/L		86	56 - 135	3	26
1,2,4-Trichlorobenzene	1.0	U	25.0	22.9		ug/L		92	29 - 156	2	19
1,2-Dibromo-3-Chloropropane	2.0	U	25.0	20.5		ug/L		82	41 - 129	0	22
Ethylene Dibromide	1.0	U	25.0	22.7		ug/L		91	69 - 125	1	14
1,2-Dichlorobenzene	1.0	U	25.0	22.1		ug/L		89	73 - 120	0	14
1,2-Dichloroethane	1.0	U	25.0	20.7		ug/L		83	63 - 126	1	12
1,2-Dichloropropane	1.0	U	25.0	21.7		ug/L		87	69 - 130	1	13
1,3-Dichlorobenzene	1.0	U	25.0	21.6		ug/L		86	73 - 120	0	14
1,4-Dichlorobenzene	1.0	U	25.0	21.6		ug/L		86	74 - 120	0	15
2-Butanone (MEK)	10	U	50.0	46.1		ug/L		92	40 - 151	2	20
2-Hexanone	10	U	50.0	41.8		ug/L		84	35 - 156	1	17
4-Methyl-2-pentanone (MIBK)	10	U	50.0	39.4		ug/L		79	31 - 153	1	15
Acetone	10	U	50.0	44.7		ug/L		89	33 - 149	0	34
Benzene	1.0	U	25.0	22.0		ug/L		88	64 - 128	3	14
Dichlorobromomethane	1.0	U	25.0	20.0		ug/L		80	62 - 125	2	13
Bromoform	1.0	U	25.0	20.0		ug/L		80	47 - 125	1	15
Bromomethane	1.0	U	12.5	3.98		ug/L		32	28 - 150	4	26
Carbon disulfide	1.0	U	25.0	20.9		ug/L		84	38 - 140	3	23
Carbon tetrachloride	1.0	U	25.0	19.2		ug/L		77	51 - 133	3	24
Chlorobenzene	1.0	U	25.0	21.5		ug/L		86	74 - 121	0	14
Chloroethane	1.0	U	12.5	13.4		ug/L		107	10 - 199	1	30
Chloroform	1.0	U	25.0	21.7		ug/L		87	70 - 122	3	14
Chloromethane	1.0	U	12.5	8.46		ug/L		68	32 - 149	2	27
cis-1,2-Dichloroethene	1.0	U	25.0	22.1		ug/L		89	66 - 128	2	14
cis-1,3-Dichloropropene	1.0	U	25.0	18.3		ug/L		73	47 - 125	1	13
Cyclohexane	1.0	U	25.0	20.0		ug/L		80	42 - 147	0	35
Chlorodibromomethane	1.0	U	25.0	20.6		ug/L		82	65 - 120	2	13
Dichlorodifluoromethane	1.0	U	12.5	7.82		ug/L		63	38 - 139	6	35
Ethylbenzene	1.0	U	25.0	20.6		ug/L		83	67 - 127	0	15

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-188779-8 MSD

Client Sample ID: GW-11223983-071723-DR-033

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 582082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Isopropylbenzene	1.0	U	25.0	21.1		ug/L		84	64 - 129	1	18
Methyl acetate	10	U	50.0	37.6		ug/L		75	37 - 155	3	18
Methyl tert-butyl ether	1.0	U	25.0	22.1		ug/L		88	47 - 134	1	16
Methylcyclohexane	1.0	U	25.0	20.0		ug/L		80	39 - 144	1	35
Methylene Chloride	5.0	U	25.0	22.6		ug/L		90	62 - 129	3	17
Styrene	1.0	U	25.0	21.1		ug/L		84	70 - 139	0	18
Tetrachloroethene	1.0	U	25.0	21.6		ug/L		87	62 - 131	1	20
Toluene	1.0	U	25.0	20.5		ug/L		82	58 - 135	0	14
trans-1,2-Dichloroethene	1.0	U	25.0	21.8		ug/L		87	56 - 136	3	15
trans-1,3-Dichloropropene	1.0	U	25.0	18.9		ug/L		75	47 - 120	3	14
Trichloroethene	1.0	U	25.0	21.5		ug/L		86	61 - 124	3	15
Trichlorofluoromethane	1.0	U	12.5	9.34		ug/L		75	24 - 177	2	34
Vinyl chloride	1.0	U	12.5	9.21		ug/L		74	43 - 157	2	24
Xylenes, Total	2.0	U	50.0	41.3		ug/L		83	71 - 123	1	15
m-Xylene & p-Xylene	2.0	U	25.0	20.8		ug/L		83	71 - 123	1	16
o-Xylene	1.0	U	25.0	20.5		ug/L		82	70 - 125	1	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	96		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120
4-Bromofluorobenzene (Surr)	97		56 - 136
1,2-Dichloroethane-d4 (Surr)	92		62 - 137

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-188779-2	GW-11223983-071423-DR-028	95	99	94	93
240-188779-3	GW-11223983-071423-DR-029	94	97	93	91
240-188779-4	GW-11223983-071423-DR-030	94	97	92	93
240-188779-5	GW-11223983-071423-DR-031	93	95	92	91
240-188779-6	GW-11223983-071423-DR-032	97	101	96	94
240-188779-7	GW-11223983-071423-DR-027	94	114	87	121
240-188779-8	GW-11223983-071723-DR-033	98	103	97	97
240-188779-8 MS	GW-11223983-071723-DR-033	96	97	97	94
240-188779-8 MSD	GW-11223983-071723-DR-033	96	98	97	92
240-188779-9	GW-11223983-071723-DR-034	94	96	93	89
240-188779-10	GW-11223983-071823-DR-035	96	99	97	96
240-188779-11	GW-11223983-071823-DR-036	95	97	93	92
LCS 240-581896/5	Lab Control Sample	102	107	102	105
LCS 240-582082/5	Lab Control Sample	98	97	97	90
MB 240-581896/9	Method Blank	96	110	89	120
MB 240-582082/8	Method Blank	97	99	96	94

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Client Sample ID: GW-11223983-071423-DR-028

Lab Sample ID: 240-188779-2

Date Collected: 07/14/23 11:00

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 20:13

Client Sample ID: GW-11223983-071423-DR-029

Lab Sample ID: 240-188779-3

Date Collected: 07/14/23 11:05

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 20:37

Client Sample ID: GW-11223983-071423-DR-030

Lab Sample ID: 240-188779-4

Date Collected: 07/14/23 10:55

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 21:00

Client Sample ID: GW-11223983-071423-DR-031

Lab Sample ID: 240-188779-5

Date Collected: 07/14/23 12:15

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 21:24

Client Sample ID: GW-11223983-071423-DR-032

Lab Sample ID: 240-188779-6

Date Collected: 07/14/23 12:55

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 21:48

Client Sample ID: GW-11223983-071423-DR-027

Lab Sample ID: 240-188779-7

Date Collected: 07/14/23 09:25

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	581896	CDG	EET CLE	07/26/23 20:05

Client Sample ID: GW-11223983-071723-DR-033

Lab Sample ID: 240-188779-8

Date Collected: 07/17/23 09:15

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 22:12

Eurofins Cleveland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-188779-1

Client Sample ID: GW-11223983-071723-DR-034

Lab Sample ID: 240-188779-9

Date Collected: 07/17/23 12:15

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 22:36

Client Sample ID: GW-11223983-071823-DR-035

Lab Sample ID: 240-188779-10

Date Collected: 07/18/23 09:40

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 22:59

Client Sample ID: GW-11223983-071823-DR-036

Lab Sample ID: 240-188779-11

Date Collected: 07/18/23 09:45

Matrix: Water

Date Received: 07/19/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	582082	CDG	EET CLE	07/27/23 23:23

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 240-188779-1

Project/Site: 11223983, RACER Willow Run CVO

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

1.9/2.3

Chain of Custody Record



Environment Testing

Client Information Client Contact: Mr. James Abston Company: GHD Services Inc. Address: 26850 Haggerty Rd. City: Farmington Hills State, Zip: MI, 48331 Phone: 248-893-3381 (Tel) Email: james.abston@ghd.com Project Name: 11223983, RACER Willow Run CVO Site: Ypsilanti, MI		Lab PM: Heckler, Denise D E-Mail: Denise.Heckler@eurofinsus.com PWSID:		Carper Tracking No(s): FED EX State of Origin: MI Page 5 of 5 Job #: 11223983-702-Y23, 03-Y23	
Due Date Requested: TAT Requested (days): STD TAT Compliance Project: ☒ Yes ☐ No PO #: Purchase Order Requested: WO #: 11223983 Project #: 24031010 SSOW#: 11223983-702-Y23, 03-Y23-002		Analysis Requested Total Number of Containers: 1 Special Instructions/Note: Try B1K			
Sample Identification TB-11223983-071423-027 GW-11223983-071423-028 -029 -030 -031 -032 -027 GW-11223983-071723-033 -034 -01823-DE-035 -036		Sample Date 7/14/23 7/17/23 7/18/23	Sample Time 1100 1105 1055 1215 1255 925 915 1215 940 945	Sample Type (C=Comp, G=grab) - G - - - - - - - -	Matrix (Water, Soil, Other) Water Water - - - - - - - -
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: D. Rivers Relinquished by: Relinquished by: Custody Seals Intact: ☒ Yes ☐ No Custody Seal No.:		Received by: Received by: Zach M. Smith Received by: Received by: Cooler Temperature(s) °C and Other Remarks:			

Eurofins - Cleveland Sample Receipt Form/Narrative

Login # :

188779

Barberton Facility

Client GHD Services Inc

Site Name _____

Cooler unpacked by:

Leah M. SmithCooler Received on 07-19-2023Opened on 07-19-2023FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____Packing material used Bubble Wrap Foam Plastic Bag None Other _____COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler FormIR GUN # 813 (CF +0.4 °C) Observed Cooler Temp. 1.9 °C Corrected Cooler Temp. 2.3 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____

☒ Yes No

-Were the seals on the outside of the cooler(s) signed & dated?

☒ Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes ☒ No

-Were tamper/custody seals intact and uncompromised?

Yes No ☒ NA

3. Shippers' packing slip attached to the cooler(s)?

☒ Yes No

4. Did custody papers accompany the sample(s)?

☒ Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

☒ Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

☒ Yes No

7. Did all bottles arrive in good condition (Unbroken)?

☒ Yes No

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?

☒ Yes No

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

☒ Yes No

10. Were correct bottle(s) used for the test(s) indicated?

☒ Yes No

11. Sufficient quantity received to perform indicated analyses?

☒ Yes No

12. Are these work share samples and all listed on the COC?

Yes ☒ No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

Yes No ☒ NA

pH Strip Lot# HC312502

14. Were VOAs on the COC?

☒ Yes No15. Were air bubbles >6 mm in any VOA vials?  Larger than this.Yes ☒ No NA16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 62225☒ Yes No

17. Was a LL Hg or Me Hg trip blank present?

Yes ☒ No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Seep Sample Analytical Data Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 5/10/2023 11:24:14 AM

JOB DESCRIPTION

11223983, RACER Willow Run CVO

JOB NUMBER

240-184334-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
5/10/2023 11:24:14 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page 1

Table of Contents 3

Case Narrative 4

Definitions/Glossary 5

Sample Summary 6

Detection Summary 7

Method Summary 8

Client Sample Results 9

QC Association Summary 17

QC Sample Results 18

Surrogate Summary 21

Lab Chronicle 22

Certification Summary 23

Chain of Custody 24



Case Narrative

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Job ID: 240-184334-1

Laboratory: Eurofins Cleveland

Narrative

**Job Narrative
240-184334-1**

Comments

No additional comments.

Receipt

The samples were received on 4/28/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.6° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-572166 recovered above the upper control limit for difluorodichloromethane, chloromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-11223983-042723 (240-184334-1), W-11223983-042723-DR-001 (240-184334-2), W-11223983-042723-DR-002 (240-184334-3), W-11223983-042723-DR-003 (240-184334-4) and (CCVIS 240-572166/3).

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-572166.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-184334-1	TB-11223983-042723	Water	04/27/23 00:00	04/28/23 09:50
240-184334-2	W-11223983-042723-DR-001	Water	04/27/23 12:00	04/28/23 09:50
240-184334-3	W-11223983-042723-DR-002	Water	04/27/23 12:10	04/28/23 09:50
240-184334-4	W-11223983-042723-DR-003	Water	04/27/23 12:20	04/28/23 09:50

Detection Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Client Sample ID: TB-11223983-042723

Lab Sample ID: 240-184334-1

No Detections.

Client Sample ID: W-11223983-042723-DR-001

Lab Sample ID: 240-184334-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.4		1.0	0.46	ug/L		1		8260D	Total/NA
Vinyl chloride	4.1		1.0	0.45	ug/L		1		8260D	Total/NA

Client Sample ID: W-11223983-042723-DR-002

Lab Sample ID: 240-184334-3

No Detections.

Client Sample ID: W-11223983-042723-DR-003

Lab Sample ID: 240-184334-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	81		2.0	0.92	ug/L		2		8260D	Total/NA
Trichloroethene	160		2.0	0.88	ug/L		2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: TB-11223983-042723

Date Collected: 04/27/23 00:00

Date Received: 04/28/23 09:50

Lab Sample ID: 240-184334-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/04/23 22:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			05/04/23 22:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/04/23 22:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/04/23 22:41	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			05/04/23 22:41	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/04/23 22:41	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			05/04/23 22:41	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			05/04/23 22:41	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			05/04/23 22:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			05/04/23 22:41	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/04/23 22:41	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			05/04/23 22:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			05/04/23 22:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			05/04/23 22:41	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			05/04/23 22:41	1
2-Hexanone	10	U	10	1.1	ug/L			05/04/23 22:41	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			05/04/23 22:41	1
Acetone	10	U	10	5.4	ug/L			05/04/23 22:41	1
Benzene	1.0	U	1.0	0.42	ug/L			05/04/23 22:41	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			05/04/23 22:41	1
Bromoform	1.0	U	1.0	0.76	ug/L			05/04/23 22:41	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/04/23 22:41	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			05/04/23 22:41	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			05/04/23 22:41	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			05/04/23 22:41	1
Chloroethane	1.0	U	1.0	0.83	ug/L			05/04/23 22:41	1
Chloroform	1.0	U	1.0	0.47	ug/L			05/04/23 22:41	1
Chloromethane	1.0	U	1.0	0.63	ug/L			05/04/23 22:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/04/23 22:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			05/04/23 22:41	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			05/04/23 22:41	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			05/04/23 22:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			05/04/23 22:41	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			05/04/23 22:41	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			05/04/23 22:41	1
Methyl acetate	10	U	10	1.7	ug/L			05/04/23 22:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			05/04/23 22:41	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			05/04/23 22:41	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			05/04/23 22:41	1
Styrene	1.0	U	1.0	0.45	ug/L			05/04/23 22:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/04/23 22:41	1
Toluene	1.0	U	1.0	0.44	ug/L			05/04/23 22:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/04/23 22:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			05/04/23 22:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/04/23 22:41	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			05/04/23 22:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/04/23 22:41	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			05/04/23 22:41	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	82		78 - 122		05/04/23 22:41	1
<i>Dibromofluoromethane (Surr)</i>	89		73 - 120		05/04/23 22:41	1
<i>4-Bromofluorobenzene (Surr)</i>	86		56 - 136		05/04/23 22:41	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	97		62 - 137		05/04/23 22:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-042723-DR-001

Date Collected: 04/27/23 12:00

Date Received: 04/28/23 09:50

Lab Sample ID: 240-184334-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/05/23 04:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			05/05/23 04:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/05/23 04:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/05/23 04:32	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			05/05/23 04:32	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/05/23 04:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			05/05/23 04:32	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			05/05/23 04:32	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			05/05/23 04:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			05/05/23 04:32	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/05/23 04:32	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			05/05/23 04:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			05/05/23 04:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			05/05/23 04:32	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			05/05/23 04:32	1
2-Hexanone	10	U	10	1.1	ug/L			05/05/23 04:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			05/05/23 04:32	1
Acetone	10	U	10	5.4	ug/L			05/05/23 04:32	1
Benzene	1.0	U	1.0	0.42	ug/L			05/05/23 04:32	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			05/05/23 04:32	1
Bromoform	1.0	U	1.0	0.76	ug/L			05/05/23 04:32	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/05/23 04:32	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			05/05/23 04:32	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			05/05/23 04:32	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			05/05/23 04:32	1
Chloroethane	1.0	U	1.0	0.83	ug/L			05/05/23 04:32	1
Chloroform	1.0	U	1.0	0.47	ug/L			05/05/23 04:32	1
Chloromethane	1.0	U	1.0	0.63	ug/L			05/05/23 04:32	1
cis-1,2-Dichloroethene	4.4		1.0	0.46	ug/L			05/05/23 04:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			05/05/23 04:32	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			05/05/23 04:32	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			05/05/23 04:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			05/05/23 04:32	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			05/05/23 04:32	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			05/05/23 04:32	1
Methyl acetate	10	U	10	1.7	ug/L			05/05/23 04:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			05/05/23 04:32	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			05/05/23 04:32	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			05/05/23 04:32	1
Styrene	1.0	U	1.0	0.45	ug/L			05/05/23 04:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/05/23 04:32	1
Toluene	1.0	U	1.0	0.44	ug/L			05/05/23 04:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/05/23 04:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			05/05/23 04:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/05/23 04:32	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			05/05/23 04:32	1
Vinyl chloride	4.1		1.0	0.45	ug/L			05/05/23 04:32	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			05/05/23 04:32	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	88		78 - 122		05/05/23 04:32	1
<i>Dibromofluoromethane (Surr)</i>	97		73 - 120		05/05/23 04:32	1
<i>4-Bromofluorobenzene (Surr)</i>	86		56 - 136		05/05/23 04:32	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		62 - 137		05/05/23 04:32	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-042723-DR-002

Date Collected: 04/27/23 12:10

Date Received: 04/28/23 09:50

Lab Sample ID: 240-184334-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/05/23 04:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			05/05/23 04:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/05/23 04:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/05/23 04:57	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			05/05/23 04:57	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/05/23 04:57	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			05/05/23 04:57	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			05/05/23 04:57	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			05/05/23 04:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			05/05/23 04:57	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/05/23 04:57	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			05/05/23 04:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			05/05/23 04:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			05/05/23 04:57	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			05/05/23 04:57	1
2-Hexanone	10	U	10	1.1	ug/L			05/05/23 04:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			05/05/23 04:57	1
Acetone	10	U	10	5.4	ug/L			05/05/23 04:57	1
Benzene	1.0	U	1.0	0.42	ug/L			05/05/23 04:57	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			05/05/23 04:57	1
Bromoform	1.0	U	1.0	0.76	ug/L			05/05/23 04:57	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/05/23 04:57	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			05/05/23 04:57	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			05/05/23 04:57	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			05/05/23 04:57	1
Chloroethane	1.0	U	1.0	0.83	ug/L			05/05/23 04:57	1
Chloroform	1.0	U	1.0	0.47	ug/L			05/05/23 04:57	1
Chloromethane	1.0	U	1.0	0.63	ug/L			05/05/23 04:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/05/23 04:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			05/05/23 04:57	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			05/05/23 04:57	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			05/05/23 04:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			05/05/23 04:57	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			05/05/23 04:57	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			05/05/23 04:57	1
Methyl acetate	10	U	10	1.7	ug/L			05/05/23 04:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			05/05/23 04:57	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			05/05/23 04:57	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			05/05/23 04:57	1
Styrene	1.0	U	1.0	0.45	ug/L			05/05/23 04:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/05/23 04:57	1
Toluene	1.0	U	1.0	0.44	ug/L			05/05/23 04:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/05/23 04:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			05/05/23 04:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/05/23 04:57	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			05/05/23 04:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/05/23 04:57	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			05/05/23 04:57	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	87		78 - 122		05/05/23 04:57	1
<i>Dibromofluoromethane (Surr)</i>	96		73 - 120		05/05/23 04:57	1
<i>4-Bromofluorobenzene (Surr)</i>	84		56 - 136		05/05/23 04:57	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		62 - 137		05/05/23 04:57	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-042723-DR-003

Date Collected: 04/27/23 12:20

Date Received: 04/28/23 09:50

Lab Sample ID: 240-184334-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.0	U	2.0	0.96	ug/L			05/05/23 05:22	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	1.2	ug/L			05/05/23 05:22	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			05/05/23 05:22	2
1,1,2-Trichloroethane	2.0	U	2.0	0.96	ug/L			05/05/23 05:22	2
1,1-Dichloroethane	2.0	U	2.0	0.94	ug/L			05/05/23 05:22	2
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			05/05/23 05:22	2
1,2,4-Trichlorobenzene	2.0	U	2.0	1.5	ug/L			05/05/23 05:22	2
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.8	ug/L			05/05/23 05:22	2
Ethylene Dibromide	2.0	U	2.0	0.82	ug/L			05/05/23 05:22	2
1,2-Dichlorobenzene	2.0	U	2.0	0.96	ug/L			05/05/23 05:22	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			05/05/23 05:22	2
1,2-Dichloropropane	2.0	U	2.0	0.94	ug/L			05/05/23 05:22	2
1,3-Dichlorobenzene	2.0	U	2.0	0.90	ug/L			05/05/23 05:22	2
1,4-Dichlorobenzene	2.0	U	2.0	0.82	ug/L			05/05/23 05:22	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			05/05/23 05:22	2
2-Hexanone	20	U	20	2.2	ug/L			05/05/23 05:22	2
4-Methyl-2-pentanone (MIBK)	20	U	20	2.0	ug/L			05/05/23 05:22	2
Acetone	20	U	20	11	ug/L			05/05/23 05:22	2
Benzene	2.0	U	2.0	0.84	ug/L			05/05/23 05:22	2
Dichlorobromomethane	2.0	U	2.0	0.34	ug/L			05/05/23 05:22	2
Bromoform	2.0	U	2.0	1.5	ug/L			05/05/23 05:22	2
Bromomethane	2.0	U	2.0	0.84	ug/L			05/05/23 05:22	2
Carbon disulfide	2.0	U	2.0	1.2	ug/L			05/05/23 05:22	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			05/05/23 05:22	2
Chlorobenzene	2.0	U	2.0	0.76	ug/L			05/05/23 05:22	2
Chloroethane	2.0	U	2.0	1.7	ug/L			05/05/23 05:22	2
Chloroform	2.0	U	2.0	0.94	ug/L			05/05/23 05:22	2
Chloromethane	2.0	U	2.0	1.3	ug/L			05/05/23 05:22	2
cis-1,2-Dichloroethene	81		2.0	0.92	ug/L			05/05/23 05:22	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			05/05/23 05:22	2
Cyclohexane	2.0	U	2.0	0.96	ug/L			05/05/23 05:22	2
Chlorodibromomethane	2.0	U	2.0	0.78	ug/L			05/05/23 05:22	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			05/05/23 05:22	2
Ethylbenzene	2.0	U	2.0	0.84	ug/L			05/05/23 05:22	2
Isopropylbenzene	2.0	U	2.0	0.98	ug/L			05/05/23 05:22	2
Methyl acetate	20	U	20	3.4	ug/L			05/05/23 05:22	2
Methyl tert-butyl ether	2.0	U	2.0	0.94	ug/L			05/05/23 05:22	2
Methylcyclohexane	2.0	U	2.0	0.66	ug/L			05/05/23 05:22	2
Methylene Chloride	10	U	10	5.2	ug/L			05/05/23 05:22	2
Styrene	2.0	U	2.0	0.90	ug/L			05/05/23 05:22	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			05/05/23 05:22	2
Toluene	2.0	U	2.0	0.88	ug/L			05/05/23 05:22	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.0	ug/L			05/05/23 05:22	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			05/05/23 05:22	2
Trichloroethene	160		2.0	0.88	ug/L			05/05/23 05:22	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			05/05/23 05:22	2
Vinyl chloride	2.0	U	2.0	0.90	ug/L			05/05/23 05:22	2
Xylenes, Total	4.0	U	4.0	0.84	ug/L			05/05/23 05:22	2

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	91		78 - 122		05/05/23 05:22	2
<i>Dibromofluoromethane (Surr)</i>	95		73 - 120		05/05/23 05:22	2
<i>4-Bromofluorobenzene (Surr)</i>	88		56 - 136		05/05/23 05:22	2
<i>1,2-Dichloroethane-d4 (Surr)</i>	96		62 - 137		05/05/23 05:22	2

QC Association Summary

Client: GHD Services Inc.

Job ID: 240-184334-1

Project/Site: 11223983, RACER Willow Run CVO

GC/MS VOA

Analysis Batch: 572166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-184334-1	TB-11223983-042723	Total/NA	Water	8260D	
240-184334-2	W-11223983-042723-DR-001	Total/NA	Water	8260D	
240-184334-3	W-11223983-042723-DR-002	Total/NA	Water	8260D	
240-184334-4	W-11223983-042723-DR-003	Total/NA	Water	8260D	
MB 240-572166/8	Method Blank	Total/NA	Water	8260D	
LCS 240-572166/5	Lab Control Sample	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-572166/8

Matrix: Water

Analysis Batch: 572166

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/04/23 21:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			05/04/23 21:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/04/23 21:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			05/04/23 21:51	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			05/04/23 21:51	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/04/23 21:51	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			05/04/23 21:51	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			05/04/23 21:51	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			05/04/23 21:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			05/04/23 21:51	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/04/23 21:51	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			05/04/23 21:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			05/04/23 21:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			05/04/23 21:51	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			05/04/23 21:51	1
2-Hexanone	10	U	10	1.1	ug/L			05/04/23 21:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			05/04/23 21:51	1
Acetone	10	U	10	5.4	ug/L			05/04/23 21:51	1
Benzene	1.0	U	1.0	0.42	ug/L			05/04/23 21:51	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			05/04/23 21:51	1
Bromoform	1.0	U	1.0	0.76	ug/L			05/04/23 21:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/04/23 21:51	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			05/04/23 21:51	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			05/04/23 21:51	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			05/04/23 21:51	1
Chloroethane	1.0	U	1.0	0.83	ug/L			05/04/23 21:51	1
Chloroform	1.0	U	1.0	0.47	ug/L			05/04/23 21:51	1
Chloromethane	1.0	U	1.0	0.63	ug/L			05/04/23 21:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/04/23 21:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			05/04/23 21:51	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			05/04/23 21:51	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			05/04/23 21:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			05/04/23 21:51	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			05/04/23 21:51	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			05/04/23 21:51	1
Methyl acetate	10	U	10	1.7	ug/L			05/04/23 21:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			05/04/23 21:51	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			05/04/23 21:51	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			05/04/23 21:51	1
Styrene	1.0	U	1.0	0.45	ug/L			05/04/23 21:51	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/04/23 21:51	1
Toluene	1.0	U	1.0	0.44	ug/L			05/04/23 21:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/04/23 21:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			05/04/23 21:51	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/04/23 21:51	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			05/04/23 21:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/04/23 21:51	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			05/04/23 21:51	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-572166/8

Matrix: Water

Analysis Batch: 572166

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		78 - 122		05/04/23 21:51	1
Dibromofluoromethane (Surr)	96		73 - 120		05/04/23 21:51	1
4-Bromofluorobenzene (Surr)	87		56 - 136		05/04/23 21:51	1
1,2-Dichloroethane-d4 (Surr)	97		62 - 137		05/04/23 21:51	1

Lab Sample ID: LCS 240-572166/5

Matrix: Water

Analysis Batch: 572166

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.4		ug/L		92	64 - 131
1,1,1,2-Tetrachloroethane	20.0	17.3		ug/L		86	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.9		ug/L		110	51 - 146
1,1,2-Trichloroethane	20.0	19.1		ug/L		96	70 - 138
1,1-Dichloroethane	20.0	20.4		ug/L		102	72 - 127
1,1-Dichloroethene	20.0	19.1		ug/L		96	63 - 134
1,2,4-Trichlorobenzene	20.0	18.2		ug/L		91	44 - 147
1,2-Dibromo-3-Chloropropane	20.0	15.3		ug/L		76	53 - 135
Ethylene Dibromide	20.0	19.0		ug/L		95	71 - 134
1,2-Dichlorobenzene	20.0	18.1		ug/L		91	78 - 120
1,2-Dichloroethane	20.0	21.4		ug/L		107	66 - 128
1,2-Dichloropropane	20.0	21.4		ug/L		107	75 - 133
1,3-Dichlorobenzene	20.0	18.2		ug/L		91	80 - 120
1,4-Dichlorobenzene	20.0	18.5		ug/L		92	80 - 120
2-Butanone (MEK)	40.0	49.4		ug/L		123	54 - 156
2-Hexanone	40.0	47.0		ug/L		118	43 - 167
4-Methyl-2-pentanone (MIBK)	40.0	49.5		ug/L		124	46 - 158
Acetone	40.0	47.4		ug/L		119	50 - 149
Benzene	20.0	20.1		ug/L		101	77 - 123
Dichlorobromomethane	20.0	20.2		ug/L		101	69 - 126
Bromoform	20.0	19.5		ug/L		97	57 - 129
Bromomethane	20.0	19.5		ug/L		97	36 - 142
Carbon disulfide	20.0	20.2		ug/L		101	43 - 140
Carbon tetrachloride	20.0	20.8		ug/L		104	55 - 137
Chlorobenzene	20.0	19.3		ug/L		97	80 - 121
Chloroethane	20.0	19.7		ug/L		99	38 - 152
Chloroform	20.0	19.4		ug/L		97	74 - 122
Chloromethane	20.0	25.1		ug/L		126	47 - 143
cis-1,2-Dichloroethene	20.0	18.3		ug/L		92	77 - 123
cis-1,3-Dichloropropene	20.0	18.2		ug/L		91	64 - 130
Cyclohexane	20.0	20.4		ug/L		102	58 - 146
Chlorodibromomethane	20.0	19.2		ug/L		96	70 - 124
Dichlorodifluoromethane	20.0	23.3		ug/L		117	34 - 153
Ethylbenzene	20.0	19.6		ug/L		98	80 - 121
Isopropylbenzene	20.0	18.6		ug/L		93	74 - 128
Methyl acetate	40.0	45.4		ug/L		113	42 - 169
Methyl tert-butyl ether	20.0	17.9		ug/L		89	65 - 126
Methylcyclohexane	20.0	18.5		ug/L		93	62 - 136

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-572166/5

Matrix: Water

Analysis Batch: 572166

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	20.0	20.9		ug/L		105	71 - 125
Styrene	20.0	18.7		ug/L		94	80 - 135
Tetrachloroethene	20.0	20.0		ug/L		100	76 - 123
Toluene	20.0	18.8		ug/L		94	80 - 123
trans-1,2-Dichloroethene	20.0	19.8		ug/L		99	75 - 124
trans-1,3-Dichloropropene	20.0	18.0		ug/L		90	57 - 129
Trichloroethene	20.0	19.9		ug/L		99	70 - 122
Trichlorofluoromethane	20.0	21.7		ug/L		109	30 - 170
Vinyl chloride	20.0	21.1		ug/L		105	60 - 144
Xylenes, Total	40.0	37.5		ug/L		94	80 - 121
m-Xylene & p-Xylene	20.0	18.9		ug/L		94	80 - 120
o-Xylene	20.0	18.6		ug/L		93	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	87		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120
4-Bromofluorobenzene (Surr)	91		56 - 136
1,2-Dichloroethane-d4 (Surr)	95		62 - 137

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TOL	DBFM	BFB	DCA
		(78-122)	(73-120)	(56-136)	(62-137)
240-184334-1	TB-11223983-042723	82	89	86	97
240-184334-2	W-11223983-042723-DR-001	88	97	86	101
240-184334-3	W-11223983-042723-DR-002	87	96	84	100
240-184334-4	W-11223983-042723-DR-003	91	95	88	96
LCS 240-572166/5	Lab Control Sample	87	93	91	95
MB 240-572166/8	Method Blank	92	96	87	97

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Client Sample ID: TB-11223983-042723

Lab Sample ID: 240-184334-1

Date Collected: 04/27/23 00:00

Matrix: Water

Date Received: 04/28/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	572166	TJL1	EET CLE	05/04/23 22:41

Client Sample ID: W-11223983-042723-DR-001

Lab Sample ID: 240-184334-2

Date Collected: 04/27/23 12:00

Matrix: Water

Date Received: 04/28/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	572166	TJL1	EET CLE	05/05/23 04:32

Client Sample ID: W-11223983-042723-DR-002

Lab Sample ID: 240-184334-3

Date Collected: 04/27/23 12:10

Matrix: Water

Date Received: 04/28/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	572166	TJL1	EET CLE	05/05/23 04:57

Client Sample ID: W-11223983-042723-DR-003

Lab Sample ID: 240-184334-4

Date Collected: 04/27/23 12:20

Matrix: Water

Date Received: 04/28/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	572166	TJL1	EET CLE	05/05/23 05:22

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-184334-1

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Connecticut	State	PH-0590	06-29-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-28-24
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-01-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-28-24
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

Client Information			Lab PM			Camier Tracking No(s)			COC No		
Client Contact: Mr. James Abston			Heckler, Denise D			618973419935			240-106075-37991.1		
Company: GHD Services Inc.			E-Mail: Denise Heckler@et.eurofinsus.com			State of Origin: MI			Page 1 of 1		
Address: 26850 Haggerty Rd., Farmington Hills, MI 48331			Phone: (313) 260-1589			PWSID			Job # 11229983-702-Y23-03		
Due Date Requested:			TAT Requested (days):			Compliance Project:			Analysis Requested		
PO #			Purchase Order Requested			Matrix			Total Number of containers		
WO #			Project #			Sample Type (C=comp, G=grab)			Preservation Codes:		
Project Name			24031010			Sample Date			Special Instructions/Note:		
Site			SSOW#			Sample Time			Other:		
11229983-702-Y23-03-Y23-001			Matrix			Sample Type			Preservation Codes:		
Sample Identification			Sample Date			Sample Time			Special Instructions/Note:		
TB-11223983-042723			4/21/23			1200			8270E - SVOCs		
W-11223983-042723-DR-001			↓			1210			8260D - VOCs		
↓			↓			1220			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓			↓			Field Filtered Sample (Yes or No)		
↓			↓			↓			Form MS/MSD (or No)		
↓			↓								

Eurofins - Canton Sample Receipt Form/Narrative		Login # : _____	
Barberton Facility			
Client <u>GHD Services Inc</u>		Site Name _____	
Cooler Received on <u>04-28-23</u>		Opened on <u>04-28-23</u>	
FedEx: 1 st Grd <u>Exp</u> UPS FAS Clipper		Client Drop Off Eurofins Courier Other _____	
Receipt After-hours: Drop-off Date/Time		Storage Location	
Eurofins Cooler # <u>EC</u> Foam Box _____ Client Cooler _____ Box _____ Other _____			
Packing material used: <u>Bubble Wrap</u> Foam Plastic Bag None Other _____			
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water None			
1. Cooler temperature upon receipt _____ ☐ See Multiple Cooler Form			
IR GUN # <u>13</u> (CF <u>10.2</u> °C) Observed Cooler Temp. <u>4.4</u> °C Corrected Cooler Temp. <u>4.6</u> °C			
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____		Yes No	
-Were the seals on the outside of the cooler(s) signed & dated?		Yes No NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		Yes No	
-Were tamper/custody seals intact and uncompromised?		Yes No <u>NA</u>	
3. Shippers' packing slip attached to the cooler(s)?		Yes No	
4. Did custody papers accompany the sample(s)?		Yes No	
5. Were the custody papers relinquished & signed in the appropriate place?		Yes No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes No	
7. Did all bottles arrive in good condition (Unbroken)?		Yes No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?		Yes No	
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		Yes No	
10. Were correct bottle(s) used for the test(s) indicated?		Yes No	
11. Sufficient quantity received to perform indicated analyses?		Yes No	
12. Are these work share samples and all listed on the COC?		Yes No	
If yes, Questions 13-17 have been checked at the originating laboratory.			
13. Were all preserved sample(s) at the correct pH upon receipt?		Yes No <u>NA</u> pH Strip Lot# <u>HC208070</u>	
14. Were VOAs on the COC?		Yes No	
15. Were air bubbles >6 mm in any VOA vials? Larger than this.		Yes No NA	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # <u>62070</u>		Yes No	
17. Was a LL Hg or Me Hg trip blank present?		Yes No	
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____			
Concerning _____			

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page		Samples processed by:	
19. SAMPLE CONDITION			
Sample(s) _____ were received after the recommended holding time had expired.			
Sample(s) _____ were received in a broken container.			
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)			
20. SAMPLE PRESERVATION			
Sample(s) _____ were further preserved in the laboratory.			
Time preserved: _____ Preservative(s) added/Lot number(s): _____			
VOA Sample Preservation - Date/Time VOAs Frozen: _____			

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 7/26/2023 7:04:48 AM

JOB DESCRIPTION

11223983-T02-Y23.03-Y23 , RACER Willow Run CVO

JOB NUMBER

240-188437-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
7/26/2023 7:04:48 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	8
Client Sample Results	9
QC Association Summary	15
QC Sample Results	16
Surrogate Summary	19
Lab Chronicle	20
Certification Summary	21
Chain of Custody	22



Case Narrative

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run CVC

Job ID: 240-188437-1

Job ID: 240-188437-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-188437-1

Comments

One Trip Blank was received. The results can be found in job: 240-188427-1.

Receipt

The samples were received on 7/13/2023 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-581615 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: W-11223983-071223-DR-001 (240-188437-1), W-11223983-071223-DR-002 (240-188437-2), W-11223983-071223-DR-003 (240-188437-3), (CCV 240-581615/4), (CCVIS 240-581615/3), (LCS 240-581615/5), (LCS 240-581615/6), (MB 240-581615/8), (240-188442-B-6), (240-188442-B-6 MS) and (240-188442-B-6 MSD).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-188437-1	W-11223983-071223-DR-001	Water	07/12/23 08:25	07/13/23 09:20
240-188437-2	W-11223983-071223-DR-002	Water	07/12/23 08:50	07/13/23 09:20
240-188437-3	W-11223983-071223-DR-003	Water	07/12/23 09:00	07/13/23 09:20

Detection Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: W-11223983-071223-DR-001

Lab Sample ID: 240-188437-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	20		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	0.69	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: W-11223983-071223-DR-002

Lab Sample ID: 240-188437-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.7		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	3.7		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: W-11223983-071223-DR-003

Lab Sample ID: 240-188437-3

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-071223-DR-001

Lab Sample ID: 240-188437-1

Date Collected: 07/12/23 08:25

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 18:26	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 18:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 18:26	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 18:26	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 18:26	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 18:26	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 18:26	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 18:26	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 18:26	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 18:26	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 18:26	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 18:26	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 18:26	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 18:26	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 18:26	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 18:26	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 18:26	1
Acetone	10	U	10	5.4	ug/L			07/24/23 18:26	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 18:26	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 18:26	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 18:26	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 18:26	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 18:26	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 18:26	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 18:26	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 18:26	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 18:26	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 18:26	1
cis-1,2-Dichloroethene	20		1.0	0.46	ug/L			07/24/23 18:26	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 18:26	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 18:26	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 18:26	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 18:26	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 18:26	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 18:26	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 18:26	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 18:26	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 18:26	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 18:26	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 18:26	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 18:26	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 18:26	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 18:26	1
Trichloroethene	20		1.0	0.44	ug/L			07/24/23 18:26	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 18:26	1
Vinyl chloride	0.69	J	1.0	0.45	ug/L			07/24/23 18:26	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 18:26	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		78 - 122		07/24/23 18:26	1
Dibromofluoromethane (Surr)	110		73 - 120		07/24/23 18:26	1
4-Bromofluorobenzene (Surr)	106		56 - 136		07/24/23 18:26	1
1,2-Dichloroethane-d4 (Surr)	115		62 - 137		07/24/23 18:26	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-071223-DR-002

Lab Sample ID: 240-188437-2

Date Collected: 07/12/23 08:50

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 18:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 18:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 18:50	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 18:50	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 18:50	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 18:50	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 18:50	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 18:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 18:50	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 18:50	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 18:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 18:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 18:50	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 18:50	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 18:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 18:50	1
Acetone	10	U	10	5.4	ug/L			07/24/23 18:50	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 18:50	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 18:50	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 18:50	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 18:50	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 18:50	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 18:50	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 18:50	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 18:50	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 18:50	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 18:50	1
cis-1,2-Dichloroethene	3.7		1.0	0.46	ug/L			07/24/23 18:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 18:50	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 18:50	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 18:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 18:50	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 18:50	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 18:50	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 18:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 18:50	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 18:50	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 18:50	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 18:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 18:50	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 18:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 18:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 18:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 18:50	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 18:50	1
Vinyl chloride	3.7		1.0	0.45	ug/L			07/24/23 18:50	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 18:50	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 122		07/24/23 18:50	1
Dibromofluoromethane (Surr)	107		73 - 120		07/24/23 18:50	1
4-Bromofluorobenzene (Surr)	102		56 - 136		07/24/23 18:50	1
1,2-Dichloroethane-d4 (Surr)	109		62 - 137		07/24/23 18:50	1

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-071223-DR-003

Lab Sample ID: 240-188437-3

Date Collected: 07/12/23 09:00

Matrix: Water

Date Received: 07/13/23 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 19:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 19:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 19:14	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 19:14	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 19:14	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 19:14	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 19:14	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 19:14	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 19:14	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 19:14	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 19:14	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 19:14	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 19:14	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 19:14	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 19:14	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 19:14	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 19:14	1
Acetone	10	U	10	5.4	ug/L			07/24/23 19:14	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 19:14	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 19:14	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 19:14	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 19:14	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 19:14	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 19:14	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 19:14	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 19:14	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 19:14	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 19:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 19:14	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 19:14	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 19:14	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 19:14	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 19:14	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 19:14	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 19:14	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 19:14	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 19:14	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 19:14	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 19:14	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 19:14	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 19:14	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 19:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 19:14	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 19:14	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 19:14	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 19:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 19:14	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 19:14	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		78 - 122		07/24/23 19:14	1
Dibromofluoromethane (Surr)	106		73 - 120		07/24/23 19:14	1
4-Bromofluorobenzene (Surr)	102		56 - 136		07/24/23 19:14	1
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		07/24/23 19:14	1

QC Association Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

GC/MS VOA

Analysis Batch: 581615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-188437-1	W-11223983-071223-DR-001	Total/NA	Water	8260D	
240-188437-2	W-11223983-071223-DR-002	Total/NA	Water	8260D	
240-188437-3	W-11223983-071223-DR-003	Total/NA	Water	8260D	
MB 240-581615/8	Method Blank	Total/NA	Water	8260D	
LCS 240-581615/5	Lab Control Sample	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188437-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-581615/8

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			07/24/23 14:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			07/24/23 14:52	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			07/24/23 14:52	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/24/23 14:52	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			07/24/23 14:52	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			07/24/23 14:52	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/24/23 14:52	1
2-Hexanone	10	U	10	1.1	ug/L			07/24/23 14:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			07/24/23 14:52	1
Acetone	10	U	10	5.4	ug/L			07/24/23 14:52	1
Benzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			07/24/23 14:52	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/24/23 14:52	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			07/24/23 14:52	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/24/23 14:52	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			07/24/23 14:52	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/24/23 14:52	1
Chloroform	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
Chloromethane	1.0	U	1.0	0.63	ug/L			07/24/23 14:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			07/24/23 14:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/24/23 14:52	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			07/24/23 14:52	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/24/23 14:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/24/23 14:52	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			07/24/23 14:52	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			07/24/23 14:52	1
Methyl acetate	10	U	10	1.7	ug/L			07/24/23 14:52	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			07/24/23 14:52	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/24/23 14:52	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/24/23 14:52	1
Styrene	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
Toluene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			07/24/23 14:52	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/24/23 14:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			07/24/23 14:52	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/24/23 14:52	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Job ID: 240-188437-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-581615/8

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	2.0	U	2.0	0.42	ug/L			07/24/23 14:52	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		78 - 122					07/24/23 14:52	1
Dibromofluoromethane (Surr)	109		73 - 120					07/24/23 14:52	1
4-Bromofluorobenzene (Surr)	106		56 - 136					07/24/23 14:52	1
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					07/24/23 14:52	1

Lab Sample ID: LCS 240-581615/5

Matrix: Water

Analysis Batch: 581615

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	23.3		ug/L		93	64 - 131
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.7		ug/L		99	51 - 146
1,1,2-Trichloroethane	25.0	23.3		ug/L		93	70 - 138
1,1-Dichloroethane	25.0	23.1		ug/L		92	72 - 127
1,1-Dichloroethene	25.0	23.6		ug/L		94	63 - 134
1,2,4-Trichlorobenzene	25.0	25.1		ug/L		100	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	22.0		ug/L		88	53 - 135
Ethylene Dibromide	25.0	23.7		ug/L		95	71 - 134
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	78 - 120
1,2-Dichloroethane	25.0	23.7		ug/L		95	66 - 128
1,2-Dichloropropane	25.0	23.6		ug/L		94	75 - 133
1,3-Dichlorobenzene	25.0	24.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 120
2-Butanone (MEK)	50.0	48.1		ug/L		96	54 - 156
2-Hexanone	50.0	47.6		ug/L		95	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	43.7		ug/L		87	46 - 158
Acetone	50.0	47.4		ug/L		95	50 - 149
Benzene	25.0	23.6		ug/L		95	77 - 123
Dichlorobromomethane	25.0	22.5		ug/L		90	69 - 126
Bromoform	25.0	23.3		ug/L		93	57 - 129
Bromomethane	12.5	10.7		ug/L		86	36 - 142
Carbon disulfide	25.0	24.2		ug/L		97	43 - 140
Carbon tetrachloride	25.0	23.8		ug/L		95	55 - 137
Chlorobenzene	25.0	24.2		ug/L		97	80 - 121
Chloroethane	12.5	11.9		ug/L		95	38 - 152
Chloroform	25.0	24.1		ug/L		96	74 - 122
Chloromethane	12.5	10.3		ug/L		82	47 - 143
cis-1,2-Dichloroethene	25.0	23.7		ug/L		95	77 - 123
cis-1,3-Dichloropropene	25.0	21.3		ug/L		85	64 - 130
Cyclohexane	25.0	24.3		ug/L		97	58 - 146
Chlorodibromomethane	25.0	22.8		ug/L		91	70 - 124
Dichlorodifluoromethane	12.5	10.6		ug/L		85	34 - 153
Ethylbenzene	25.0	23.7		ug/L		95	80 - 121

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-581615/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 581615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isopropylbenzene	25.0	24.8		ug/L		99	74 - 128
Methyl acetate	50.0	44.1		ug/L		88	42 - 169
Methyl tert-butyl ether	25.0	23.4		ug/L		94	65 - 126
Methylcyclohexane	25.0	24.9		ug/L		100	62 - 136
Methylene Chloride	25.0	24.3		ug/L		97	71 - 125
Styrene	25.0	23.7		ug/L		95	80 - 135
Tetrachloroethene	25.0	24.6		ug/L		98	76 - 123
Toluene	25.0	23.2		ug/L		93	80 - 123
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	75 - 124
trans-1,3-Dichloropropene	25.0	22.9		ug/L		91	57 - 129
Trichloroethene	25.0	23.6		ug/L		94	70 - 122
Trichlorofluoromethane	12.5	11.5		ug/L		92	30 - 170
Vinyl chloride	12.5	10.7		ug/L		86	60 - 144
Xylenes, Total	50.0	47.1		ug/L		94	80 - 121
m-Xylene & p-Xylene	25.0	23.9		ug/L		95	80 - 120
o-Xylene	25.0	23.2		ug/L		93	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120
4-Bromofluorobenzene (Surr)	106		56 - 136
1,2-Dichloroethane-d4 (Surr)	108		62 - 137

Surrogate Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run

CVO

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL	DBFM	BFB	DCA
		(78-122)	(73-120)	(56-136)	(62-137)
240-188437-1	W-11223983-071223-DR-001	104	110	106	115
240-188437-2	W-11223983-071223-DR-002	100	107	102	109
240-188437-3	W-11223983-071223-DR-003	103	106	102	105
LCS 240-581615/5	Lab Control Sample	106	107	106	108
MB 240-581615/8	Method Blank	105	109	106	111

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Client Sample ID: W-11223983-071223-DR-001

Lab Sample ID: 240-188437-1

Date Collected: 07/12/23 08:25

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581615	SAM	EET CLE	07/24/23 18:26

Client Sample ID: W-11223983-071223-DR-002

Lab Sample ID: 240-188437-2

Date Collected: 07/12/23 08:50

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581615	SAM	EET CLE	07/24/23 18:50

Client Sample ID: W-11223983-071223-DR-003

Lab Sample ID: 240-188437-3

Date Collected: 07/12/23 09:00

Matrix: Water

Date Received: 07/13/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	581615	SAM	EET CLE	07/24/23 19:14

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 240-188437-1

Project/Site: 11223983-T02-Y23.03-Y23 , RACER Willow Run
CVO

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-24-23
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

Eurofins – Cleveland Sample Receipt Form/Narrative				Login # : _____	
Barberton Facility					
Client <u>GHD</u>		Site Name _____		Cooler unpacked by: _____	
Cooler Received on <u>7.13.23</u>		Opened on <u>7.13.23</u>		<u>M. Xoc</u>	
FedEx: 1 st Gfd Exp		UPS FAS Clipper		Client Drop Off Eurofins Courier Other	
Receipt After-hours: Drop-off Date/Time _____			Storage Location _____		
Eurofins Cooler # <u>22</u>		Foam Box		Client Cooler Box Other _____	
Packing material used: <u>Bubble Wrap</u>		Foam Plastic Bag		None Other _____	
COOLANT: <u>Wet Ice</u>		Blue Ice		Dry Ice Water None	
1. Cooler temperature upon receipt		☐ See Multiple Cooler Form			
IR GUN # <u>22</u>		(CF <u>0.1</u> °C)		Observed Cooler Temp. <u>3.6</u> °C Corrected Cooler Temp. <u>3.5</u> °C	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____		Yes No		Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC	
-Were the seals on the outside of the cooler(s) signed & dated?		Yes No NA			
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		Yes No			
-Were tamper/custody seals intact and uncompromised?		Yes No NA			
3. Shippers' packing slip attached to the cooler(s)?		Yes No			
4. Did custody papers accompany the sample(s)?		Yes No			
5. Were the custody papers relinquished & signed in the appropriate place?		Yes No			
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes No			
7. Did all bottles arrive in good condition (Unbroken)?		Yes No			
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?		Yes No			
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		Yes No			
10. Were correct bottle(s) used for the test(s) indicated?		Yes No			
11. Sufficient quantity received to perform indicated analyses?		Yes No			
12. Are these work share samples and all listed on the COC?		Yes No			
If yes, Questions 13-17 have been checked at the originating laboratory.					
13. Were all preserved sample(s) at the correct pH upon receipt?		Yes No NA		pH Strip Lot # <u>10BDH4321</u>	
14. Were VOAs on the COC?		Yes No		<u>HC312502</u>	
15. Were air bubbles >6 mm in any VOA vials? Larger than this.		Yes No NA			
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		Yes No			
17. Was a LL Hg or Me Hg trip blank present? _____		Yes No			
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____					
Concerning _____					

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES		☐ additional next page	Samples processed by: _____
19. SAMPLE CONDITION			
Sample(s) _____ were received after the recommended holding time had expired.			
Sample(s) _____ were received in a broken container.			
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)			
20. SAMPLE PRESERVATION			
Sample(s) _____ were further preserved in the laboratory.			
Time preserved: _____ Preservative(s) added/Lot number(s): _____			
VOA Sample Preservation - Date/Time VOAs Frozen: _____			

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 10/23/2023 8:52:22 AM

JOB DESCRIPTION

11223983, RACER Willow Run CVO

JOB NUMBER

240-193616-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
10/23/2023 8:52:22 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	8
Client Sample Results	9
QC Association Summary	17
QC Sample Results	18
Surrogate Summary	23
Lab Chronicle	24
Certification Summary	25
Chain of Custody	26



Case Narrative

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Job ID: 240-193616-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-193616-1

Receipt

The samples were received on 10/14/2023 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 7.0° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-591496 was outside the method criteria for the following analyte(s): Carbon disulfide and Methyl tert-butyl ether. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed within the 7-day holding time specified for unpreserved samples:
W-11223983-101323-DR-001 (240-193616-1) and W-11223983-101323-DR-003 (240-193616-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-193616-1	W-11223983-101323-DR-001	Water	10/13/23 08:25	10/14/23 09:40
240-193616-2	W-11223983-101323-DR-002	Water	10/13/23 08:50	10/14/23 09:40
240-193616-3	W-11223983-101323-DR-003	Water	10/13/23 09:00	10/14/23 09:40
240-193616-4	TB-11223983-101323	Water	10/13/23 00:00	10/14/23 09:40

Detection Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Client Sample ID: W-11223983-101323-DR-001

Lab Sample ID: 240-193616-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.69	J	1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	130		5.0	2.3	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene	1.6		1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	30		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	7.1		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: W-11223983-101323-DR-002

Lab Sample ID: 240-193616-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.2		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	5.2		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: W-11223983-101323-DR-003

Lab Sample ID: 240-193616-3

No Detections.

Client Sample ID: TB-11223983-101323

Lab Sample ID: 240-193616-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-101323-DR-001

Date Collected: 10/13/23 08:25

Date Received: 10/14/23 09:40

Lab Sample ID: 240-193616-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/19/23 19:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/19/23 19:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:05	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/19/23 19:05	1
1,1-Dichloroethene	0.69	J	1.0	0.49	ug/L			10/19/23 19:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/19/23 19:05	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/19/23 19:05	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/19/23 19:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/19/23 19:05	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/19/23 19:05	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/19/23 19:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/19/23 19:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/19/23 19:05	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/19/23 19:05	1
2-Hexanone	10	U	10	1.1	ug/L			10/19/23 19:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/19/23 19:05	1
Acetone	10	U	10	5.4	ug/L			10/19/23 19:05	1
Benzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:05	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/19/23 19:05	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/19/23 19:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/19/23 19:05	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/19/23 19:05	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/19/23 19:05	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/19/23 19:05	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/19/23 19:05	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/19/23 19:05	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/19/23 19:05	1
cis-1,2-Dichloroethene	130		5.0	2.3	ug/L			10/20/23 16:50	5
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/19/23 19:05	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/19/23 19:05	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/19/23 19:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/19/23 19:05	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:05	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/19/23 19:05	1
Methyl acetate	10	U	10	1.7	ug/L			10/19/23 19:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/19/23 19:05	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/19/23 19:05	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/19/23 19:05	1
Styrene	1.0	U	1.0	0.45	ug/L			10/19/23 19:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 19:05	1
Toluene	1.0	U	1.0	0.44	ug/L			10/19/23 19:05	1
trans-1,2-Dichloroethene	1.6		1.0	0.51	ug/L			10/19/23 19:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/19/23 19:05	1
Trichloroethene	30		1.0	0.44	ug/L			10/19/23 19:05	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/19/23 19:05	1
Vinyl chloride	7.1		1.0	0.45	ug/L			10/19/23 19:05	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/19/23 19:05	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		78 - 122		10/19/23 19:05	1
Toluene-d8 (Surr)	108		78 - 122		10/20/23 16:50	5
Dibromofluoromethane (Surr)	111		73 - 120		10/19/23 19:05	1
Dibromofluoromethane (Surr)	109		73 - 120		10/20/23 16:50	5
4-Bromofluorobenzene (Surr)	81		56 - 136		10/19/23 19:05	1
4-Bromofluorobenzene (Surr)	82		56 - 136		10/20/23 16:50	5
1,2-Dichloroethane-d4 (Surr)	115		62 - 137		10/19/23 19:05	1
1,2-Dichloroethane-d4 (Surr)	113		62 - 137		10/20/23 16:50	5

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-101323-DR-002

Date Collected: 10/13/23 08:50

Date Received: 10/14/23 09:40

Lab Sample ID: 240-193616-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:30	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/19/23 19:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/19/23 19:30	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:30	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/19/23 19:30	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			10/19/23 19:30	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/19/23 19:30	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/19/23 19:30	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/19/23 19:30	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/19/23 19:30	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/19/23 19:30	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/19/23 19:30	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/19/23 19:30	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/19/23 19:30	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/19/23 19:30	1
2-Hexanone	10	U	10	1.1	ug/L			10/19/23 19:30	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/19/23 19:30	1
Acetone	10	U	10	5.4	ug/L			10/19/23 19:30	1
Benzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:30	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/19/23 19:30	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/19/23 19:30	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/19/23 19:30	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/19/23 19:30	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/19/23 19:30	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/19/23 19:30	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/19/23 19:30	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/19/23 19:30	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/19/23 19:30	1
cis-1,2-Dichloroethene	4.2		1.0	0.46	ug/L			10/20/23 17:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/19/23 19:30	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/19/23 19:30	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/19/23 19:30	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/19/23 19:30	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:30	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/19/23 19:30	1
Methyl acetate	10	U	10	1.7	ug/L			10/19/23 19:30	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/19/23 19:30	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/19/23 19:30	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/19/23 19:30	1
Styrene	1.0	U	1.0	0.45	ug/L			10/19/23 19:30	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 19:30	1
Toluene	1.0	U	1.0	0.44	ug/L			10/19/23 19:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			10/19/23 19:30	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/19/23 19:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 19:30	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/19/23 19:30	1
Vinyl chloride	5.2		1.0	0.45	ug/L			10/19/23 19:30	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/19/23 19:30	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		78 - 122		10/19/23 19:30	1
Toluene-d8 (Surr)	110		78 - 122		10/20/23 17:15	1
Dibromofluoromethane (Surr)	113		73 - 120		10/19/23 19:30	1
Dibromofluoromethane (Surr)	109		73 - 120		10/20/23 17:15	1
4-Bromofluorobenzene (Surr)	81		56 - 136		10/19/23 19:30	1
4-Bromofluorobenzene (Surr)	82		56 - 136		10/20/23 17:15	1
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		10/19/23 19:30	1
1,2-Dichloroethane-d4 (Surr)	112		62 - 137		10/20/23 17:15	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-101323-DR-003

Date Collected: 10/13/23 09:00

Date Received: 10/14/23 09:40

Lab Sample ID: 240-193616-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/19/23 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/19/23 19:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 19:55	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/19/23 19:55	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			10/19/23 19:55	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/19/23 19:55	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/19/23 19:55	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/19/23 19:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/19/23 19:55	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/19/23 19:55	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/19/23 19:55	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/19/23 19:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/19/23 19:55	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/19/23 19:55	1
2-Hexanone	10	U	10	1.1	ug/L			10/19/23 19:55	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/19/23 19:55	1
Acetone	10	U	10	5.4	ug/L			10/19/23 19:55	1
Benzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:55	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/19/23 19:55	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/19/23 19:55	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/19/23 19:55	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/19/23 19:55	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/19/23 19:55	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/19/23 19:55	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/19/23 19:55	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/19/23 19:55	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/19/23 19:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			10/19/23 19:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/19/23 19:55	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/19/23 19:55	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/19/23 19:55	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/19/23 19:55	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/19/23 19:55	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/19/23 19:55	1
Methyl acetate	10	U	10	1.7	ug/L			10/19/23 19:55	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/19/23 19:55	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/19/23 19:55	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/19/23 19:55	1
Styrene	1.0	U	1.0	0.45	ug/L			10/19/23 19:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 19:55	1
Toluene	1.0	U	1.0	0.44	ug/L			10/19/23 19:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			10/19/23 19:55	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/19/23 19:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 19:55	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/19/23 19:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/19/23 19:55	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/19/23 19:55	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	108		78 - 122		10/19/23 19:55	1
<i>Dibromofluoromethane (Surr)</i>	111		73 - 120		10/19/23 19:55	1
<i>4-Bromofluorobenzene (Surr)</i>	82		56 - 136		10/19/23 19:55	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	117		62 - 137		10/19/23 19:55	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: TB-11223983-101323

Date Collected: 10/13/23 00:00

Date Received: 10/14/23 09:40

Lab Sample ID: 240-193616-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 16:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/19/23 16:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/19/23 16:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 16:34	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/19/23 16:34	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			10/19/23 16:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/19/23 16:34	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/19/23 16:34	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/19/23 16:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/19/23 16:34	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/19/23 16:34	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/19/23 16:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/19/23 16:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/19/23 16:34	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/19/23 16:34	1
2-Hexanone	10	U	10	1.1	ug/L			10/19/23 16:34	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/19/23 16:34	1
Acetone	10	U	10	5.4	ug/L			10/19/23 16:34	1
Benzene	1.0	U	1.0	0.42	ug/L			10/19/23 16:34	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/19/23 16:34	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/19/23 16:34	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/19/23 16:34	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/19/23 16:34	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/19/23 16:34	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/19/23 16:34	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/19/23 16:34	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/19/23 16:34	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/19/23 16:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			10/19/23 16:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/19/23 16:34	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/19/23 16:34	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/19/23 16:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/19/23 16:34	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/19/23 16:34	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/19/23 16:34	1
Methyl acetate	10	U	10	1.7	ug/L			10/19/23 16:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/19/23 16:34	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/19/23 16:34	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/19/23 16:34	1
Styrene	1.0	U	1.0	0.45	ug/L			10/19/23 16:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 16:34	1
Toluene	1.0	U	1.0	0.44	ug/L			10/19/23 16:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			10/19/23 16:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/19/23 16:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 16:34	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/19/23 16:34	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/19/23 16:34	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/19/23 16:34	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	108		78 - 122		10/19/23 16:34	1
<i>Dibromofluoromethane (Surr)</i>	112		73 - 120		10/19/23 16:34	1
<i>4-Bromofluorobenzene (Surr)</i>	85		56 - 136		10/19/23 16:34	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	116		62 - 137		10/19/23 16:34	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

GC/MS VOA

Analysis Batch: 591496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193616-1	W-11223983-101323-DR-001	Total/NA	Water	8260D	
240-193616-2	W-11223983-101323-DR-002	Total/NA	Water	8260D	
240-193616-3	W-11223983-101323-DR-003	Total/NA	Water	8260D	
240-193616-4	TB-11223983-101323	Total/NA	Water	8260D	
MB 240-591496/8	Method Blank	Total/NA	Water	8260D	
LCS 240-591496/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 591677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193616-1	W-11223983-101323-DR-001	Total/NA	Water	8260D	
240-193616-2	W-11223983-101323-DR-002	Total/NA	Water	8260D	
MB 240-591677/8	Method Blank	Total/NA	Water	8260D	
LCS 240-591677/5	Lab Control Sample	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-591496/8

Matrix: Water

Analysis Batch: 591496

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 16:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/19/23 16:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/19/23 16:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/19/23 16:09	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/19/23 16:09	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			10/19/23 16:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/19/23 16:09	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/19/23 16:09	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/19/23 16:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/19/23 16:09	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/19/23 16:09	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/19/23 16:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/19/23 16:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/19/23 16:09	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/19/23 16:09	1
2-Hexanone	10	U	10	1.1	ug/L			10/19/23 16:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/19/23 16:09	1
Acetone	10	U	10	5.4	ug/L			10/19/23 16:09	1
Benzene	1.0	U	1.0	0.42	ug/L			10/19/23 16:09	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/19/23 16:09	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/19/23 16:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/19/23 16:09	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/19/23 16:09	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/19/23 16:09	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/19/23 16:09	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/19/23 16:09	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/19/23 16:09	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/19/23 16:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			10/19/23 16:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/19/23 16:09	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/19/23 16:09	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/19/23 16:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/19/23 16:09	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/19/23 16:09	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/19/23 16:09	1
Methyl acetate	10	U	10	1.7	ug/L			10/19/23 16:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/19/23 16:09	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/19/23 16:09	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/19/23 16:09	1
Styrene	1.0	U	1.0	0.45	ug/L			10/19/23 16:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 16:09	1
Toluene	1.0	U	1.0	0.44	ug/L			10/19/23 16:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			10/19/23 16:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/19/23 16:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			10/19/23 16:09	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/19/23 16:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/19/23 16:09	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/19/23 16:09	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-591496/8

Matrix: Water

Analysis Batch: 591496

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		78 - 122		10/19/23 16:09	1
Dibromofluoromethane (Surr)	111		73 - 120		10/19/23 16:09	1
4-Bromofluorobenzene (Surr)	85		56 - 136		10/19/23 16:09	1
1,2-Dichloroethane-d4 (Surr)	115		62 - 137		10/19/23 16:09	1

Lab Sample ID: LCS 240-591496/5

Matrix: Water

Analysis Batch: 591496

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	23.9		ug/L		96	64 - 131
1,1,1,2-Tetrachloroethane	25.0	25.6		ug/L		102	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.6		ug/L		119	51 - 146
1,1,2-Trichloroethane	25.0	27.9		ug/L		112	70 - 138
1,1-Dichloroethane	25.0	25.4		ug/L		101	72 - 127
1,1-Dichloroethene	25.0	29.4		ug/L		117	63 - 134
1,2,4-Trichlorobenzene	25.0	19.9		ug/L		80	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	20.0		ug/L		80	53 - 135
Ethylene Dibromide	25.0	27.2		ug/L		109	71 - 134
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	78 - 120
1,2-Dichloroethane	25.0	25.1		ug/L		100	66 - 128
1,2-Dichloropropane	25.0	26.8		ug/L		107	75 - 133
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 120
1,4-Dichlorobenzene	25.0	26.4		ug/L		106	80 - 120
2-Butanone (MEK)	50.0	52.7		ug/L		105	54 - 156
2-Hexanone	50.0	59.0		ug/L		118	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	55.0		ug/L		110	46 - 158
Acetone	50.0	57.6		ug/L		115	50 - 149
Benzene	25.0	27.1		ug/L		108	77 - 123
Dichlorobromomethane	25.0	23.6		ug/L		94	69 - 126
Bromoform	25.0	23.0		ug/L		92	57 - 129
Bromomethane	12.5	10.2		ug/L		82	36 - 142
Carbon disulfide	25.0	24.8		ug/L		99	43 - 140
Carbon tetrachloride	25.0	24.1		ug/L		96	55 - 137
Chlorobenzene	25.0	27.3		ug/L		109	80 - 121
Chloroethane	12.5	11.6		ug/L		92	38 - 152
Chloroform	25.0	25.3		ug/L		101	74 - 122
Chloromethane	12.5	10.6		ug/L		85	47 - 143
cis-1,2-Dichloroethene	25.0	25.1		ug/L		100	77 - 123
cis-1,3-Dichloropropene	25.0	22.8		ug/L		91	64 - 130
Cyclohexane	25.0	28.3		ug/L		113	58 - 146
Chlorodibromomethane	25.0	24.8		ug/L		99	70 - 124
Dichlorodifluoromethane	12.5	9.51		ug/L		76	34 - 153
Ethylbenzene	25.0	27.0		ug/L		108	80 - 121
Isopropylbenzene	25.0	27.3		ug/L		109	74 - 128
Methyl acetate	50.0	48.3		ug/L		97	42 - 169
Methyl tert-butyl ether	25.0	21.1		ug/L		84	65 - 126
Methylcyclohexane	25.0	27.8		ug/L		111	62 - 136

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-591496/5

Matrix: Water

Analysis Batch: 591496

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	25.0	27.0		ug/L		108	71 - 125
Styrene	25.0	29.5		ug/L		118	80 - 135
Tetrachloroethene	25.0	28.5		ug/L		114	76 - 123
Toluene	25.0	26.9		ug/L		108	80 - 123
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	75 - 124
trans-1,3-Dichloropropene	25.0	24.3		ug/L		97	57 - 129
Trichloroethene	25.0	25.6		ug/L		102	70 - 122
Trichlorofluoromethane	12.5	12.2		ug/L		97	30 - 170
Vinyl chloride	12.5	9.99		ug/L		80	60 - 144
Xylenes, Total	50.0	53.4		ug/L		107	80 - 121
m-Xylene & p-Xylene	25.0	27.2		ug/L		109	80 - 120
o-Xylene	25.0	26.2		ug/L		105	80 - 123

Surrogate	%Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	112		78 - 122
Dibromofluoromethane (Surr)	110		73 - 120
4-Bromofluorobenzene (Surr)	101		56 - 136
1,2-Dichloroethane-d4 (Surr)	106		62 - 137

Lab Sample ID: MB 240-591677/8

Matrix: Water

Analysis Batch: 591677

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/20/23 16:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			10/20/23 16:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			10/20/23 16:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			10/20/23 16:00	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			10/20/23 16:00	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			10/20/23 16:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			10/20/23 16:00	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			10/20/23 16:00	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			10/20/23 16:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			10/20/23 16:00	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			10/20/23 16:00	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			10/20/23 16:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			10/20/23 16:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/23 16:00	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			10/20/23 16:00	1
2-Hexanone	10	U	10	1.1	ug/L			10/20/23 16:00	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			10/20/23 16:00	1
Acetone	10	U	10	5.4	ug/L			10/20/23 16:00	1
Benzene	1.0	U	1.0	0.42	ug/L			10/20/23 16:00	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			10/20/23 16:00	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/20/23 16:00	1
Bromomethane	1.0	U	1.0	0.42	ug/L			10/20/23 16:00	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			10/20/23 16:00	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			10/20/23 16:00	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-591677/8

Matrix: Water

Analysis Batch: 591677

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0	0.38	ug/L			10/20/23 16:00	1
Chloroethane	1.0	U	1.0	0.83	ug/L			10/20/23 16:00	1
Chloroform	1.0	U	1.0	0.47	ug/L			10/20/23 16:00	1
Chloromethane	1.0	U	1.0	0.63	ug/L			10/20/23 16:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			10/20/23 16:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			10/20/23 16:00	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			10/20/23 16:00	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			10/20/23 16:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			10/20/23 16:00	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			10/20/23 16:00	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			10/20/23 16:00	1
Methyl acetate	10	U	10	1.7	ug/L			10/20/23 16:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			10/20/23 16:00	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			10/20/23 16:00	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			10/20/23 16:00	1
Styrene	1.0	U	1.0	0.45	ug/L			10/20/23 16:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			10/20/23 16:00	1
Toluene	1.0	U	1.0	0.44	ug/L			10/20/23 16:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			10/20/23 16:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			10/20/23 16:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			10/20/23 16:00	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			10/20/23 16:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/20/23 16:00	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			10/20/23 16:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		78 - 122		10/20/23 16:00	1
Dibromofluoromethane (Surr)	107		73 - 120		10/20/23 16:00	1
4-Bromofluorobenzene (Surr)	85		56 - 136		10/20/23 16:00	1
1,2-Dichloroethane-d4 (Surr)	112		62 - 137		10/20/23 16:00	1

Lab Sample ID: LCS 240-591677/5

Matrix: Water

Analysis Batch: 591677

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	22.9		ug/L		92	64 - 131
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		102	58 - 157
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.5		ug/L		86	51 - 146
1,1,2-Trichloroethane	25.0	27.7		ug/L		111	70 - 138
1,1-Dichloroethane	25.0	24.5		ug/L		98	72 - 127
1,1-Dichloroethene	25.0	22.0		ug/L		88	63 - 134
1,2,4-Trichlorobenzene	25.0	19.4		ug/L		78	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	19.5		ug/L		78	53 - 135
Ethylene Dibromide	25.0	26.8		ug/L		107	71 - 134
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	78 - 120
1,2-Dichloroethane	25.0	24.3		ug/L		97	66 - 128
1,2-Dichloropropane	25.0	26.4		ug/L		106	75 - 133

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-591677/5

Matrix: Water

Analysis Batch: 591677

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 120
1,4-Dichlorobenzene	25.0	26.6		ug/L		107	80 - 120
2-Butanone (MEK)	50.0	48.0		ug/L		96	54 - 156
2-Hexanone	50.0	58.1		ug/L		116	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	52.1		ug/L		104	46 - 158
Acetone	50.0	41.7		ug/L		83	50 - 149
Benzene	25.0	26.0		ug/L		104	77 - 123
Dichlorobromomethane	25.0	22.5		ug/L		90	69 - 126
Bromoform	25.0	22.6		ug/L		90	57 - 129
Bromomethane	12.5	9.33		ug/L		75	36 - 142
Carbon disulfide	25.0	18.9		ug/L		76	43 - 140
Carbon tetrachloride	25.0	23.0		ug/L		92	55 - 137
Chlorobenzene	25.0	27.0		ug/L		108	80 - 121
Chloroethane	12.5	11.0		ug/L		88	38 - 152
Chloroform	25.0	24.5		ug/L		98	74 - 122
Chloromethane	12.5	10.5		ug/L		84	47 - 143
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	77 - 123
cis-1,3-Dichloropropene	25.0	21.9		ug/L		88	64 - 130
Cyclohexane	25.0	26.5		ug/L		106	58 - 146
Chlorodibromomethane	25.0	24.4		ug/L		98	70 - 124
Dichlorodifluoromethane	12.5	9.65		ug/L		77	34 - 153
Ethylbenzene	25.0	26.9		ug/L		107	80 - 121
Isopropylbenzene	25.0	27.1		ug/L		109	74 - 128
Methyl acetate	50.0	33.5		ug/L		67	42 - 169
Methyl tert-butyl ether	25.0	20.3		ug/L		81	65 - 126
Methylcyclohexane	25.0	26.5		ug/L		106	62 - 136
Methylene Chloride	25.0	21.2		ug/L		85	71 - 125
Styrene	25.0	29.3		ug/L		117	80 - 135
Tetrachloroethene	25.0	28.4		ug/L		113	76 - 123
Toluene	25.0	26.6		ug/L		106	80 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
trans-1,3-Dichloropropene	25.0	23.7		ug/L		95	57 - 129
Trichloroethene	25.0	24.9		ug/L		99	70 - 122
Trichlorofluoromethane	12.5	12.8		ug/L		102	30 - 170
Vinyl chloride	12.5	9.34		ug/L		75	60 - 144
Xylenes, Total	50.0	53.8		ug/L		108	80 - 121
m-Xylene & p-Xylene	25.0	27.7		ug/L		111	80 - 120
o-Xylene	25.0	26.1		ug/L		104	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	114		78 - 122
Dibromofluoromethane (Surr)	108		73 - 120
4-Bromofluorobenzene (Surr)	102		56 - 136
1,2-Dichloroethane-d4 (Surr)	104		62 - 137

Eurofins Cleveland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-193616-1	W-11223983-101323-DR-001	109	111	81	115
240-193616-1	W-11223983-101323-DR-001	108	109	82	113
240-193616-2	W-11223983-101323-DR-002	108	113	81	117
240-193616-2	W-11223983-101323-DR-002	110	109	82	112
240-193616-3	W-11223983-101323-DR-003	108	111	82	117
240-193616-4	TB-11223983-101323	108	112	85	116
LCS 240-591496/5	Lab Control Sample	112	110	101	106
LCS 240-591677/5	Lab Control Sample	114	108	102	104
MB 240-591496/8	Method Blank	109	111	85	115
MB 240-591677/8	Method Blank	108	107	85	112

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-193616-1

Client Sample ID: W-11223983-101323-DR-001

Lab Sample ID: 240-193616-1

Date Collected: 10/13/23 08:25

Matrix: Water

Date Received: 10/14/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591496	CDG	EET CLE	10/19/23 19:05
Total/NA	Analysis	8260D		5	591677	CDG	EET CLE	10/20/23 16:50

Client Sample ID: W-11223983-101323-DR-002

Lab Sample ID: 240-193616-2

Date Collected: 10/13/23 08:50

Matrix: Water

Date Received: 10/14/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591496	CDG	EET CLE	10/19/23 19:30
Total/NA	Analysis	8260D		1	591677	CDG	EET CLE	10/20/23 17:15

Client Sample ID: W-11223983-101323-DR-003

Lab Sample ID: 240-193616-3

Date Collected: 10/13/23 09:00

Matrix: Water

Date Received: 10/14/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591496	CDG	EET CLE	10/19/23 19:55

Client Sample ID: TB-11223983-101323

Lab Sample ID: 240-193616-4

Date Collected: 10/13/23 00:00

Matrix: Water

Date Received: 10/14/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591496	CDG	EET CLE	10/19/23 16:34

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 240-193616-1

Project/Site: 11223983, RACER Willow Run CVO

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Cleveland



Address:

11223983 - T02 - TAL-8210

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: GHD	Client Contact	Project Manager: Tom Kinney	Site Contact: JAMES ARBON	Date: 10/13/2023	COC No: 423.03-423-003
Address: 26850 Haggerty Rd	Tel/Email:	Lab Contact: D. Heckler	Carrier: FED EX		
City/State/Zip: Ft. Hills, MI 48331					
Phone: (248) 893-3466					
Fax:					
Project Name: RACER CVO - SEAP SUMMERS					
Site: Ypsilanti, MI					
PO# 11223983-T02-423.03-423-003					

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes:
W-11223983-101323-DE-001		10/13/23	8:25	G	W	3			
↓ ↓ ↓ -002		↓	8:50	↓	↓	3			
↓ ↓ ↓ -003		↓	9:00	↓	↓	3			
TB-11223983-101323		↓	-	-	WA	1			



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐ Poison B

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for Months

Special Instructions/QC Requirements & Comments:

Custody Seal No.:	Cooler Temp. (°C):	Obs'd:	Corr'd:	Therm ID No.:
Relinquished by: D. Rivers	Relinquished by: D. Rivers	Relinquished by: Jessica	Relinquished by: ETNC	Relinquished by: ETNC
Date/Time: 10/13/23 1300	Date/Time: 10/13/23 1300	Date/Time: 10/14/23 0940	Date/Time: 10/14/23 0940	Date/Time: 10/14/23 0940

Eurofins - Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : 193616

Client GHD Site Name Racer-Ypsilanti Cooler unpacked by: Jue
 Cooler Received on 10-14-23 Opened on 10-14-23
 FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EL Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN # 19 (CF +0.4 °C) Observed Cooler Temp. 6.6 °C Corrected Cooler Temp. 7.0 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ☒ Yes No ☐ No
 -Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes No ☐ NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes No ☐ NA
 -Were tamper/custody seals intact and uncompromised? ☒ Yes No ☐ NA
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes No ☐ No
4. Did custody papers accompany the sample(s)? ☒ Yes No ☐ No
5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes No ☐ No
6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes No ☐ No
7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes No ☐ No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? ☒ Yes No ☐ No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? ☒ Yes No ☐ No
10. Were correct bottle(s) used for the test(s) indicated? ☒ Yes No ☐ No
11. Sufficient quantity received to perform indicated analyses? ☒ Yes No ☐ No
12. Are these work share samples and all listed on the COC? ☒ Yes No ☐ No
 If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes No ☒ NA pH Strip Lot# HC316719
14. Were VOAs on the COC? ☒ Yes No ☐ No
15. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☒ NA ☒ Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0041301F ☒ Yes No ☐ No
17. Was a LL Hg or Me Hg trip blank present? ☒ Yes No ☐ No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM DH Date 10-14-23 by Jue via Verbal Voice Mail Other

Concerning Cooler is too warm - Samples were overly insulated from the ice. Jue

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. James Abston
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Generated 1/30/2024 9:43:49 AM

JOB DESCRIPTION

11223983, RACER Willow Run CVO

JOB NUMBER

240-198479-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
1/30/2024 9:43:49 AM

Authorized for release by
Denise Heckler, Project Manager II
Denise.Heckler@et.eurofinsus.com
(330)966-9477

Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	8
Client Sample Results	9
QC Association Summary	17
QC Sample Results	18
Surrogate Summary	21
Lab Chronicle	22
Certification Summary	23
Chain of Custody	24



Case Narrative

Client: GHD Services Inc.
Project: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Job ID: 240-198479-1

Eurofins Cleveland

Job Narrative 240-198479-1

Receipt

The samples were received on 1/24/2024 10:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-601281 was outside the method criteria for the following analyte(s): 1,1,1-Trichloroethane, Dichlorobromomethane, Bromoform, Carbon tetrachloride, Chlorodibromomethane and trans-1,3-Dichloropropene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: W-11223983-012324-DR-003 (240-198479-4).

Method 8260D: The method requirement for no headspace was not met. The following volatile sample was analyzed with significant headspace in the sample container(s): TB-11223983-012324 (240-198479-1). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Cleveland

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-198479-1	TB-11223983-012324	Water	01/23/24 00:00	01/24/24 10:35
240-198479-2	W-11223983-012324-DR-001	Water	01/23/24 08:45	01/24/24 10:35
240-198479-3	W-11223983-012324-DR-002	Water	01/23/24 09:00	01/24/24 10:35
240-198479-4	W-11223983-012324-DR-003	Water	01/23/24 09:15	01/24/24 10:35

Detection Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Client Sample ID: TB-11223983-012324

Lab Sample ID: 240-198479-1

No Detections.

Client Sample ID: W-11223983-012324-DR-001

Lab Sample ID: 240-198479-2

No Detections.

Client Sample ID: W-11223983-012324-DR-002

Lab Sample ID: 240-198479-3

No Detections.

Client Sample ID: W-11223983-012324-DR-003

Lab Sample ID: 240-198479-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	16	J	20	11	ug/L	2			8260D	Total/NA
cis-1,2-Dichloroethene	110		2.0	0.92	ug/L	2			8260D	Total/NA
trans-1,2-Dichloroethene	1.6	J	2.0	1.0	ug/L	2			8260D	Total/NA
Trichloroethene	120		2.0	0.88	ug/L	2			8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Method Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: TB-11223983-012324

Date Collected: 01/23/24 00:00

Date Received: 01/24/24 10:35

Lab Sample ID: 240-198479-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/25/24 19:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			01/25/24 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			01/25/24 19:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/25/24 19:55	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			01/25/24 19:55	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			01/25/24 19:55	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			01/25/24 19:55	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			01/25/24 19:55	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			01/25/24 19:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			01/25/24 19:55	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			01/25/24 19:55	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			01/25/24 19:55	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			01/25/24 19:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			01/25/24 19:55	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			01/25/24 19:55	1
2-Hexanone	10	U	10	1.1	ug/L			01/25/24 19:55	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			01/25/24 19:55	1
Acetone	10	U	10	5.4	ug/L			01/25/24 19:55	1
Benzene	1.0	U	1.0	0.42	ug/L			01/25/24 19:55	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			01/25/24 19:55	1
Bromoform	1.0	U	1.0	0.76	ug/L			01/25/24 19:55	1
Bromomethane	1.0	U	1.0	0.42	ug/L			01/25/24 19:55	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			01/25/24 19:55	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			01/25/24 19:55	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			01/25/24 19:55	1
Chloroethane	1.0	U	1.0	0.83	ug/L			01/25/24 19:55	1
Chloroform	1.0	U	1.0	0.47	ug/L			01/25/24 19:55	1
Chloromethane	1.0	U	1.0	0.63	ug/L			01/25/24 19:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			01/25/24 19:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			01/25/24 19:55	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			01/25/24 19:55	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			01/25/24 19:55	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			01/25/24 19:55	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			01/25/24 19:55	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			01/25/24 19:55	1
Methyl acetate	10	U	10	1.7	ug/L			01/25/24 19:55	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			01/25/24 19:55	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			01/25/24 19:55	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			01/25/24 19:55	1
Styrene	1.0	U	1.0	0.45	ug/L			01/25/24 19:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			01/25/24 19:55	1
Toluene	1.0	U	1.0	0.44	ug/L			01/25/24 19:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			01/25/24 19:55	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			01/25/24 19:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			01/25/24 19:55	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			01/25/24 19:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/25/24 19:55	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			01/25/24 19:55	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	103		78 - 122		01/25/24 19:55	1
<i>Dibromofluoromethane (Surr)</i>	89		73 - 120		01/25/24 19:55	1
<i>4-Bromofluorobenzene (Surr)</i>	95		56 - 136		01/25/24 19:55	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	95		62 - 137		01/25/24 19:55	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-012324-DR-001

Date Collected: 01/23/24 08:45

Date Received: 01/24/24 10:35

Lab Sample ID: 240-198479-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/26/24 01:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			01/26/24 01:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			01/26/24 01:20	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/26/24 01:20	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			01/26/24 01:20	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			01/26/24 01:20	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			01/26/24 01:20	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			01/26/24 01:20	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			01/26/24 01:20	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			01/26/24 01:20	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			01/26/24 01:20	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			01/26/24 01:20	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			01/26/24 01:20	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			01/26/24 01:20	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			01/26/24 01:20	1
2-Hexanone	10	U	10	1.1	ug/L			01/26/24 01:20	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			01/26/24 01:20	1
Acetone	10	U	10	5.4	ug/L			01/26/24 01:20	1
Benzene	1.0	U	1.0	0.42	ug/L			01/26/24 01:20	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			01/26/24 01:20	1
Bromoform	1.0	U	1.0	0.76	ug/L			01/26/24 01:20	1
Bromomethane	1.0	U	1.0	0.42	ug/L			01/26/24 01:20	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			01/26/24 01:20	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			01/26/24 01:20	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			01/26/24 01:20	1
Chloroethane	1.0	U	1.0	0.83	ug/L			01/26/24 01:20	1
Chloroform	1.0	U	1.0	0.47	ug/L			01/26/24 01:20	1
Chloromethane	1.0	U	1.0	0.63	ug/L			01/26/24 01:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			01/26/24 01:20	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			01/26/24 01:20	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			01/26/24 01:20	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			01/26/24 01:20	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			01/26/24 01:20	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			01/26/24 01:20	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			01/26/24 01:20	1
Methyl acetate	10	U	10	1.7	ug/L			01/26/24 01:20	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			01/26/24 01:20	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			01/26/24 01:20	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			01/26/24 01:20	1
Styrene	1.0	U	1.0	0.45	ug/L			01/26/24 01:20	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			01/26/24 01:20	1
Toluene	1.0	U	1.0	0.44	ug/L			01/26/24 01:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			01/26/24 01:20	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			01/26/24 01:20	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			01/26/24 01:20	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			01/26/24 01:20	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/26/24 01:20	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			01/26/24 01:20	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	106		78 - 122		01/26/24 01:20	1
<i>Dibromofluoromethane (Surr)</i>	93		73 - 120		01/26/24 01:20	1
<i>4-Bromofluorobenzene (Surr)</i>	97		56 - 136		01/26/24 01:20	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	99		62 - 137		01/26/24 01:20	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-012324-DR-002

Date Collected: 01/23/24 09:00

Date Received: 01/24/24 10:35

Lab Sample ID: 240-198479-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/26/24 01:45	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			01/26/24 01:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			01/26/24 01:45	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/26/24 01:45	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			01/26/24 01:45	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			01/26/24 01:45	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			01/26/24 01:45	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			01/26/24 01:45	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			01/26/24 01:45	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			01/26/24 01:45	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			01/26/24 01:45	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			01/26/24 01:45	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			01/26/24 01:45	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			01/26/24 01:45	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			01/26/24 01:45	1
2-Hexanone	10	U	10	1.1	ug/L			01/26/24 01:45	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			01/26/24 01:45	1
Acetone	10	U	10	5.4	ug/L			01/26/24 01:45	1
Benzene	1.0	U	1.0	0.42	ug/L			01/26/24 01:45	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			01/26/24 01:45	1
Bromoform	1.0	U	1.0	0.76	ug/L			01/26/24 01:45	1
Bromomethane	1.0	U	1.0	0.42	ug/L			01/26/24 01:45	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			01/26/24 01:45	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			01/26/24 01:45	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			01/26/24 01:45	1
Chloroethane	1.0	U	1.0	0.83	ug/L			01/26/24 01:45	1
Chloroform	1.0	U	1.0	0.47	ug/L			01/26/24 01:45	1
Chloromethane	1.0	U	1.0	0.63	ug/L			01/26/24 01:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			01/26/24 01:45	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			01/26/24 01:45	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			01/26/24 01:45	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			01/26/24 01:45	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			01/26/24 01:45	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			01/26/24 01:45	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			01/26/24 01:45	1
Methyl acetate	10	U	10	1.7	ug/L			01/26/24 01:45	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			01/26/24 01:45	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			01/26/24 01:45	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			01/26/24 01:45	1
Styrene	1.0	U	1.0	0.45	ug/L			01/26/24 01:45	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			01/26/24 01:45	1
Toluene	1.0	U	1.0	0.44	ug/L			01/26/24 01:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			01/26/24 01:45	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			01/26/24 01:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			01/26/24 01:45	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			01/26/24 01:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/26/24 01:45	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			01/26/24 01:45	1

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 122		01/26/24 01:45	1
Dibromofluoromethane (Surr)	86		73 - 120		01/26/24 01:45	1
4-Bromofluorobenzene (Surr)	91		56 - 136		01/26/24 01:45	1
1,2-Dichloroethane-d4 (Surr)	92		62 - 137		01/26/24 01:45	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: W-11223983-012324-DR-003

Date Collected: 01/23/24 09:15

Date Received: 01/24/24 10:35

Lab Sample ID: 240-198479-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.0	U	2.0	0.96	ug/L			01/26/24 02:10	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	1.2	ug/L			01/26/24 02:10	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			01/26/24 02:10	2
1,1,2-Trichloroethane	2.0	U	2.0	0.96	ug/L			01/26/24 02:10	2
1,1-Dichloroethane	2.0	U	2.0	0.94	ug/L			01/26/24 02:10	2
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			01/26/24 02:10	2
1,2,4-Trichlorobenzene	2.0	U	2.0	1.5	ug/L			01/26/24 02:10	2
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.8	ug/L			01/26/24 02:10	2
Ethylene Dibromide	2.0	U	2.0	0.82	ug/L			01/26/24 02:10	2
1,2-Dichlorobenzene	2.0	U	2.0	0.96	ug/L			01/26/24 02:10	2
1,2-Dichloroethane	2.0	U	2.0	0.91	ug/L			01/26/24 02:10	2
1,2-Dichloropropane	2.0	U	2.0	0.94	ug/L			01/26/24 02:10	2
1,3-Dichlorobenzene	2.0	U	2.0	0.90	ug/L			01/26/24 02:10	2
1,4-Dichlorobenzene	2.0	U	2.0	0.82	ug/L			01/26/24 02:10	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			01/26/24 02:10	2
2-Hexanone	20	U	20	2.2	ug/L			01/26/24 02:10	2
4-Methyl-2-pentanone (MIBK)	20	U	20	2.0	ug/L			01/26/24 02:10	2
Acetone	16	J	20	11	ug/L			01/26/24 02:10	2
Benzene	2.0	U	2.0	0.84	ug/L			01/26/24 02:10	2
Dichlorobromomethane	2.0	U	2.0	0.75	ug/L			01/26/24 02:10	2
Bromoform	2.0	U	2.0	1.5	ug/L			01/26/24 02:10	2
Bromomethane	2.0	U	2.0	0.84	ug/L			01/26/24 02:10	2
Carbon disulfide	2.0	U	2.0	1.2	ug/L			01/26/24 02:10	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			01/26/24 02:10	2
Chlorobenzene	2.0	U	2.0	0.76	ug/L			01/26/24 02:10	2
Chloroethane	2.0	U	2.0	1.7	ug/L			01/26/24 02:10	2
Chloroform	2.0	U	2.0	0.94	ug/L			01/26/24 02:10	2
Chloromethane	2.0	U	2.0	1.3	ug/L			01/26/24 02:10	2
cis-1,2-Dichloroethene	110		2.0	0.92	ug/L			01/26/24 02:10	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			01/26/24 02:10	2
Cyclohexane	2.0	U	2.0	0.96	ug/L			01/26/24 02:10	2
Chlorodibromomethane	2.0	U	2.0	0.78	ug/L			01/26/24 02:10	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			01/26/24 02:10	2
Ethylbenzene	2.0	U	2.0	0.84	ug/L			01/26/24 02:10	2
Isopropylbenzene	2.0	U	2.0	0.98	ug/L			01/26/24 02:10	2
Methyl acetate	20	U	20	3.4	ug/L			01/26/24 02:10	2
Methyl tert-butyl ether	2.0	U	2.0	0.94	ug/L			01/26/24 02:10	2
Methylcyclohexane	2.0	U	2.0	0.66	ug/L			01/26/24 02:10	2
Methylene Chloride	10	U	10	5.2	ug/L			01/26/24 02:10	2
Styrene	2.0	U	2.0	0.90	ug/L			01/26/24 02:10	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			01/26/24 02:10	2
Toluene	2.0	U	2.0	0.88	ug/L			01/26/24 02:10	2
trans-1,2-Dichloroethene	1.6	J	2.0	1.0	ug/L			01/26/24 02:10	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			01/26/24 02:10	2
Trichloroethene	120		2.0	0.88	ug/L			01/26/24 02:10	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			01/26/24 02:10	2
Vinyl chloride	2.0	U	2.0	0.90	ug/L			01/26/24 02:10	2
Xylenes, Total	4.0	U	4.0	0.84	ug/L			01/26/24 02:10	2

Eurofins Cleveland

Client Sample Results

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	103		78 - 122		01/26/24 02:10	2
<i>Dibromofluoromethane (Surr)</i>	91		73 - 120		01/26/24 02:10	2
<i>4-Bromofluorobenzene (Surr)</i>	95		56 - 136		01/26/24 02:10	2
<i>1,2-Dichloroethane-d4 (Surr)</i>	98		62 - 137		01/26/24 02:10	2

QC Association Summary

Client: GHD Services Inc.

Job ID: 240-198479-1

Project/Site: 11223983, RACER Willow Run CVO

GC/MS VOA

Analysis Batch: 601281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198479-1	TB-11223983-012324	Total/NA	Water	8260D	
240-198479-2	W-11223983-012324-DR-001	Total/NA	Water	8260D	
240-198479-3	W-11223983-012324-DR-002	Total/NA	Water	8260D	
240-198479-4	W-11223983-012324-DR-003	Total/NA	Water	8260D	
MB 240-601281/8	Method Blank	Total/NA	Water	8260D	
LCS 240-601281/5	Lab Control Sample	Total/NA	Water	8260D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-601281/8

Matrix: Water

Analysis Batch: 601281

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/25/24 19:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.60	ug/L			01/25/24 19:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			01/25/24 19:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.48	ug/L			01/25/24 19:05	1
1,1-Dichloroethane	1.0	U	1.0	0.47	ug/L			01/25/24 19:05	1
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			01/25/24 19:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.77	ug/L			01/25/24 19:05	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			01/25/24 19:05	1
Ethylene Dibromide	1.0	U	1.0	0.41	ug/L			01/25/24 19:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.48	ug/L			01/25/24 19:05	1
1,2-Dichloroethane	1.0	U	1.0	0.46	ug/L			01/25/24 19:05	1
1,2-Dichloropropane	1.0	U	1.0	0.47	ug/L			01/25/24 19:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.45	ug/L			01/25/24 19:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.41	ug/L			01/25/24 19:05	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			01/25/24 19:05	1
2-Hexanone	10	U	10	1.1	ug/L			01/25/24 19:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			01/25/24 19:05	1
Acetone	10	U	10	5.4	ug/L			01/25/24 19:05	1
Benzene	1.0	U	1.0	0.42	ug/L			01/25/24 19:05	1
Dichlorobromomethane	1.0	U	1.0	0.38	ug/L			01/25/24 19:05	1
Bromoform	1.0	U	1.0	0.76	ug/L			01/25/24 19:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			01/25/24 19:05	1
Carbon disulfide	1.0	U	1.0	0.59	ug/L			01/25/24 19:05	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			01/25/24 19:05	1
Chlorobenzene	1.0	U	1.0	0.38	ug/L			01/25/24 19:05	1
Chloroethane	1.0	U	1.0	0.83	ug/L			01/25/24 19:05	1
Chloroform	1.0	U	1.0	0.47	ug/L			01/25/24 19:05	1
Chloromethane	1.0	U	1.0	0.63	ug/L			01/25/24 19:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			01/25/24 19:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			01/25/24 19:05	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			01/25/24 19:05	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			01/25/24 19:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			01/25/24 19:05	1
Ethylbenzene	1.0	U	1.0	0.42	ug/L			01/25/24 19:05	1
Isopropylbenzene	1.0	U	1.0	0.49	ug/L			01/25/24 19:05	1
Methyl acetate	10	U	10	1.7	ug/L			01/25/24 19:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.47	ug/L			01/25/24 19:05	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			01/25/24 19:05	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			01/25/24 19:05	1
Styrene	1.0	U	1.0	0.45	ug/L			01/25/24 19:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			01/25/24 19:05	1
Toluene	1.0	U	1.0	0.44	ug/L			01/25/24 19:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			01/25/24 19:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			01/25/24 19:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			01/25/24 19:05	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			01/25/24 19:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/25/24 19:05	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			01/25/24 19:05	1

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-601281/8

Matrix: Water

Analysis Batch: 601281

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		78 - 122		01/25/24 19:05	1
Dibromofluoromethane (Surr)	89		73 - 120		01/25/24 19:05	1
4-Bromofluorobenzene (Surr)	99		56 - 136		01/25/24 19:05	1
1,2-Dichloroethane-d4 (Surr)	99		62 - 137		01/25/24 19:05	1

Lab Sample ID: LCS 240-601281/5

Matrix: Water

Analysis Batch: 601281

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	20.8		ug/L		83	64 - 131
1,1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		102	58 - 157
1,1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.4		ug/L		106	51 - 146
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 138
1,1-Dichloroethane	25.0	24.2		ug/L		97	72 - 127
1,1-Dichloroethene	25.0	25.6		ug/L		102	63 - 134
1,2,4-Trichlorobenzene	25.0	25.8		ug/L		103	44 - 147
1,2-Dibromo-3-Chloropropane	25.0	17.5		ug/L		70	53 - 135
Ethylene Dibromide	25.0	23.6		ug/L		94	71 - 134
1,2-Dichlorobenzene	25.0	25.3		ug/L		101	78 - 120
1,2-Dichloroethane	25.0	23.3		ug/L		93	66 - 128
1,2-Dichloropropane	25.0	26.4		ug/L		106	75 - 133
1,3-Dichlorobenzene	25.0	25.4		ug/L		101	80 - 120
1,4-Dichlorobenzene	25.0	25.3		ug/L		101	80 - 120
2-Butanone (MEK)	50.0	49.7		ug/L		99	54 - 156
2-Hexanone	50.0	49.2		ug/L		98	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	45.3		ug/L		91	46 - 158
Acetone	50.0	53.6		ug/L		107	50 - 149
Benzene	25.0	26.2		ug/L		105	77 - 123
Dichlorobromomethane	25.0	19.8		ug/L		79	69 - 126
Bromoform	25.0	17.5		ug/L		70	57 - 129
Bromomethane	12.5	13.8		ug/L		110	36 - 142
Carbon disulfide	25.0	21.3		ug/L		85	43 - 140
Carbon tetrachloride	25.0	20.3		ug/L		81	55 - 137
Chlorobenzene	25.0	26.3		ug/L		105	80 - 121
Chloroethane	12.5	13.5		ug/L		108	38 - 152
Chloroform	25.0	21.3		ug/L		85	74 - 122
Chloromethane	12.5	12.8		ug/L		103	47 - 143
cis-1,2-Dichloroethene	25.0	24.1		ug/L		97	77 - 123
cis-1,3-Dichloropropene	25.0	20.6		ug/L		82	64 - 130
Cyclohexane	25.0	26.9		ug/L		108	58 - 146
Chlorodibromomethane	25.0	19.1		ug/L		76	70 - 124
Dichlorodifluoromethane	12.5	12.7		ug/L		102	34 - 153
Ethylbenzene	25.0	26.3		ug/L		105	80 - 121
Isopropylbenzene	25.0	26.8		ug/L		107	74 - 128
Methyl acetate	50.0	44.3		ug/L		89	42 - 169
Methyl tert-butyl ether	25.0	22.4		ug/L		90	65 - 126
Methylcyclohexane	25.0	27.7		ug/L		111	62 - 136

Eurofins Cleveland

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-601281/5

Matrix: Water

Analysis Batch: 601281

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	25.0	24.6		ug/L		98	71 - 125
Styrene	25.0	26.1		ug/L		104	80 - 135
Tetrachloroethene	25.0	25.7		ug/L		103	76 - 123
Toluene	25.0	25.0		ug/L		100	80 - 123
trans-1,2-Dichloroethene	25.0	24.6		ug/L		98	75 - 124
trans-1,3-Dichloropropene	25.0	19.9		ug/L		79	57 - 129
Trichloroethene	25.0	24.3		ug/L		97	70 - 122
Trichlorofluoromethane	12.5	13.5		ug/L		108	30 - 170
Vinyl chloride	12.5	14.2		ug/L		113	60 - 144
Xylenes, Total	50.0	51.7		ug/L		103	80 - 121
m-Xylene & p-Xylene	25.0	26.2		ug/L		105	80 - 120
o-Xylene	25.0	25.5		ug/L		102	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120
4-Bromofluorobenzene (Surr)	101		56 - 136
1,2-Dichloroethane-d4 (Surr)	96		62 - 137

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Method: 8260D - Volatile Organic Compounds by GC/MS
Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-198479-1	TB-11223983-012324	103	89	95	95
240-198479-2	W-11223983-012324-DR-001	106	93	97	99
240-198479-3	W-11223983-012324-DR-002	100	86	91	92
240-198479-4	W-11223983-012324-DR-003	103	91	95	98
LCS 240-601281/5	Lab Control Sample	103	92	101	96
MB 240-601281/8	Method Blank	106	89	99	99

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Client Sample ID: TB-11223983-012324

Lab Sample ID: 240-198479-1

Date Collected: 01/23/24 00:00

Matrix: Water

Date Received: 01/24/24 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	601281	CDG	EET CLE	01/25/24 19:55

Client Sample ID: W-11223983-012324-DR-001

Lab Sample ID: 240-198479-2

Date Collected: 01/23/24 08:45

Matrix: Water

Date Received: 01/24/24 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	601281	CDG	EET CLE	01/26/24 01:20

Client Sample ID: W-11223983-012324-DR-002

Lab Sample ID: 240-198479-3

Date Collected: 01/23/24 09:00

Matrix: Water

Date Received: 01/24/24 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	601281	CDG	EET CLE	01/26/24 01:45

Client Sample ID: W-11223983-012324-DR-003

Lab Sample ID: 240-198479-4

Date Collected: 01/23/24 09:15

Matrix: Water

Date Received: 01/24/24 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	601281	CDG	EET CLE	01/26/24 02:10

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 11223983, RACER Willow Run CVO

Job ID: 240-198479-1

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-30-24
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-01-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Barberton, OH 44203-3543
phone 330.497.9396 fax 330.497.0772

1.1/2.0

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Environment Testing America

11223983-702-Y23.03

Project Manager: T. Kinney

Email: chem.det@eghd.com

Client Contact

Address: 26850 Haggerty Rd
City/State/Zip: Farmington Hills, MI 48331
Phone: (248) 893-3400
FAX:

Project Name: RACER-CYO SEEPS
Site: Ypsilanti, MI
PO #: 11223983-702-Y23.03-Y23-005

Site Contact: B. Frutcher
Lab Contact: D. Heckler
Date: 1/23/24
Carrier: FED EX
Sampler: D. Kueers
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:
11223983-Y23.03

Sample Identification				Sample		# of Cont.	Matrix	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Sample Specific Notes:
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Analysis Turnaround Time	Sample Type	Matrix					
1/23/24	-	-	2 weeks	-	WQ	1				
1/23/24	845	G	1 week	G	W	3				
1/23/24	900	G	2 days	G	W	3				
1/23/24	915	G	1 day	G	W	3				



240-198479 Chain of Custody

Preservation Used: 1 = Ice, 2 = HCl, 3 = H2SO4, 4 = HNO3, 5 = NaOH, 6 = Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C):	Obs'd:	Corr'd:	Therm ID No.:
Relinquished by: D. Kueers	Company: SHD	Date/Time: 1/23/24	Date/Time: 12:00	Company: EGHD	Date/Time: 1-24-24 1035
Relinquished by:	Company:	Date/Time:	Date/Time:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Date/Time:	Company:	Date/Time:

Eurofins – Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : _____

Client GHD Site Name Racer CVO Cooler unpacked by: JMP
Cooler Received on 1-24-24 Opened on 1-24-24
FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN # 19 (CF +0.9 °C) Observed Cooler Temp. 1.1 °C Corrected Cooler Temp. 2.0 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ☒ Yes ☐ No
-Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes ☐ No NA
-Were tamper/custody seals intact and uncompromised? ☒ Yes ☐ No NA
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No
4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No
5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No
6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes ☐ No
7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? ☒ Yes ☐ No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? ☒ Yes ☐ No
10. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No
11. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No
12. Are these work share samples and all listed on the COC? ☒ Yes ☐ No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

- If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? ☒ Yes ☐ No
15. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No NA  Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 01122011 ☒ Yes ☐ No
17. Was a LL Hg or Me Hg trip blank present? ☒ Yes ☐ No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) TB vial was received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

GHD - Farmington Hills, MI

Sample Delivery Group: L1686842
Samples Received: 12/12/2023
Project Number: 11223983
Description: RACER CVO

Report To: Tom Kinney
26850 Haggerty Road
Farmington Hills, MI 48331

Entire Report Reviewed By:



Brittnie L Boyd
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
SG-11223983-121123-LK-001 L1686842-01	5
Qc: Quality Control Summary	7
Volatile Organic Compounds (MS) by Method TO-15	7
Gl: Glossary of Terms	11
Al: Accreditations & Locations	12
Sc: Sample Chain of Custody	13

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

SAMPLE SUMMARY

SG-11223983-121123-LK-001 L1686842-01 Air

Collected by
Lauren Kaltz

Collected date/time
12/11/23 10:24

Received date/time
12/12/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2189390	1	12/15/23 04:44	12/15/23 04:44	GH	Mt. Juliet, TN

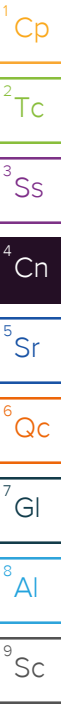
¹Cp ${}^2\text{Tc}$ 3S_1 ${}^4\text{Cn}$ ${}^5\text{Sr}$ ${}^6\text{Qc}$ ${}^7\text{Gf}$ ${}^8\text{Al}$ ${}^9\text{Sc}$

CASE NARRATIVE

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



Brittnie L Boyd
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	3.87	9.20		1	WG2189390
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2189390
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2189390
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2189390
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2189390
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2189390
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2189390
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2189390
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.565	1.76		1	WG2189390
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2189390
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2189390
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2189390
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2189390
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2189390
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2189390
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2189390
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2189390
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2189390
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2189390
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2189390
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2189390
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2189390
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2189390
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2189390
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2189390
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2189390
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2189390
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2189390
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2189390
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2189390
Ethanol	64-17-5	46.10	2.50	4.71	2.58	4.86		1	WG2189390
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2189390
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2189390
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.271	1.52		1	WG2189390
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.300	1.48		1	WG2189390
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2189390
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	1.06	7.41		1	WG2189390
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2189390
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2189390
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2189390
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2189390
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2189390
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2189390
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2189390
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2189390
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2189390
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2189390
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2189390
2-Propanol	67-63-0	60.10	1.25	3.07	3.64	8.95		1	WG2189390
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2189390
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2189390
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2189390
Tetrachloroethylene	127-18-4	166	0.200	1.36	1.35	9.17		1	WG2189390
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2189390
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2189390
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2189390

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	0.398	2.16		1	WG2189390
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2189390
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2189390
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.225	1.10		1	WG2189390
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2189390
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2189390
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2189390
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2189390
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2189390
Xylenes, Total	1330-20-7	106.16	0.600	2.61	0.641	2.78		1	WG2189390
m&p-Xylene	1330-20-7	106	0.400	1.73	0.449	1.95		1	WG2189390
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2189390
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG2189390

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4013211-3 12/14/23 12:25

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Ethanol	U		0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4013211-3 12/14/23 12:25

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
Xylenes, Total	U		0.135	0.600
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	100			60.0-140

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R4013211-1 12/14/23 09:29 • (LCSD) R4013211-2 12/14/23 10:18

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.66	3.71	97.6	98.9	70.0-130			1.36	25
Allyl chloride	3.75	3.86	3.97	103	106	70.0-130			2.81	25
Benzene	3.75	3.76	3.69	100	98.4	70.0-130			1.88	25
Benzyl Chloride	3.75	3.65	3.70	97.3	98.7	70.0-152			1.36	25

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

(LCS) R4013211-1 12/14/23 09:29 • (LCSD) R4013211-2 12/14/23 10:18

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	3.75	3.75	3.76	100	100	70.0-130			0.266	25
Bromoform	3.75	3.63	3.63	96.8	96.8	70.0-130			0.000	25
Bromomethane	3.75	3.82	3.83	102	102	70.0-130			0.261	25
1,3-Butadiene	3.75	3.90	4.01	104	107	70.0-130			2.78	25
Carbon disulfide	3.75	3.71	3.75	98.9	100	70.0-130			1.07	25
Carbon tetrachloride	3.75	3.54	3.62	94.4	96.5	70.0-130			2.23	25
Chlorobenzene	3.75	3.61	3.72	96.3	99.2	70.0-130			3.00	25
Chloroethane	3.75	4.20	4.09	112	109	70.0-130			2.65	25
Chloroform	3.75	3.69	3.77	98.4	101	70.0-130			2.14	25
Chloromethane	3.75	3.83	3.85	102	103	70.0-130			0.521	25
2-Chlorotoluene	3.75	3.68	3.67	98.1	97.9	70.0-130			0.272	25
Cyclohexane	3.75	3.89	3.95	104	105	70.0-130			1.53	25
Dibromochloromethane	3.75	3.68	3.79	98.1	101	70.0-130			2.95	25
1,2-Dibromoethane	3.75	3.84	3.90	102	104	70.0-130			1.55	25
1,2-Dichlorobenzene	3.75	3.64	3.74	97.1	99.7	70.0-130			2.71	25
1,3-Dichlorobenzene	3.75	3.76	3.80	100	101	70.0-130			1.06	25
1,4-Dichlorobenzene	3.75	3.84	3.78	102	101	70.0-130			1.57	25
1,2-Dichloroethane	3.75	3.76	3.75	100	100	70.0-130			0.266	25
1,1-Dichloroethane	3.75	3.77	3.93	101	105	70.0-130			4.16	25
1,1-Dichloroethene	3.75	3.77	3.81	101	102	70.0-130			1.06	25
cis-1,2-Dichloroethene	3.75	3.62	3.64	96.5	97.1	70.0-130			0.551	25
trans-1,2-Dichloroethene	3.75	3.77	3.83	101	102	70.0-130			1.58	25
1,2-Dichloropropane	3.75	4.03	4.01	107	107	70.0-130			0.498	25
cis-1,3-Dichloropropene	3.75	3.73	3.84	99.5	102	70.0-130			2.91	25
trans-1,3-Dichloropropene	3.75	3.84	3.86	102	103	70.0-130			0.519	25
1,4-Dioxane	3.75	3.97	4.20	106	112	70.0-140			5.63	25
Ethanol	3.75	3.59	3.34	95.7	89.1	55.0-148			7.22	25
Ethylbenzene	3.75	3.69	3.74	98.4	99.7	70.0-130			1.35	25
4-Ethyltoluene	3.75	3.86	3.73	103	99.5	70.0-130			3.43	25
Trichlorofluoromethane	3.75	3.54	3.61	94.4	96.3	70.0-130			1.96	25
Dichlorodifluoromethane	3.75	3.78	3.78	101	101	64.0-139			0.000	25
1,1,2-Trichlorotrifluoroethane	3.75	3.77	3.71	101	98.9	70.0-130			1.60	25
1,2-Dichlorotetrafluoroethane	3.75	4.41	4.42	118	118	70.0-130			0.227	25
Heptane	3.75	3.98	3.75	106	100	70.0-130			5.95	25
Hexachloro-1,3-butadiene	3.75	3.62	3.67	96.5	97.9	70.0-151			1.37	25
n-Hexane	3.75	3.76	3.72	100	99.2	70.0-130			1.07	25
Isopropylbenzene	3.75	3.82	3.77	102	101	70.0-130			1.32	25
Methylene Chloride	3.75	3.66	3.61	97.6	96.3	70.0-130			1.38	25
Methyl Butyl Ketone	3.75	3.86	3.90	103	104	70.0-149			1.03	25
2-Butanone (MEK)	3.75	3.83	3.95	102	105	70.0-130			3.08	25

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

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

(LCS) R4013211-1 12/14/23 09:29 • (LCSD) R4013211-2 12/14/23 10:18

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	3.75	3.76	3.78	100	101	70.0-139			0.531	25
Methyl methacrylate	3.75	3.86	3.96	103	106	70.0-130			2.56	25
MTBE	3.75	3.81	3.87	102	103	70.0-130			1.56	25
Naphthalene	3.75	3.80	3.85	101	103	70.0-159			1.31	25
2-Propanol	3.75	3.60	3.56	96.0	94.9	70.0-139			1.12	25
Propene	3.75	3.91	3.87	104	103	64.0-144			1.03	25
Styrene	3.75	3.73	3.73	99.5	99.5	70.0-130			0.000	25
1,1,2,2-Tetrachloroethane	3.75	3.90	3.83	104	102	70.0-130			1.81	25
Tetrachloroethylene	3.75	3.58	3.69	95.5	98.4	70.0-130			3.03	25
Tetrahydrofuran	3.75	3.89	3.96	104	106	70.0-137			1.78	25
Toluene	3.75	3.68	3.79	98.1	101	70.0-130			2.95	25
1,2,4-Trichlorobenzene	3.75	3.77	3.85	101	103	70.0-160			2.10	25
1,1,1-Trichloroethane	3.75	3.67	3.59	97.9	95.7	70.0-130			2.20	25
1,1,2-Trichloroethane	3.75	3.57	3.90	95.2	104	70.0-130			8.84	25
Trichloroethylene	3.75	3.72	3.79	99.2	101	70.0-130			1.86	25
1,2,4-Trimethylbenzene	3.75	3.75	3.72	100	99.2	70.0-130			0.803	25
1,3,5-Trimethylbenzene	3.75	3.75	3.74	100	99.7	70.0-130			0.267	25
2,2,4-Trimethylpentane	3.75	3.83	3.82	102	102	70.0-130			0.261	25
Vinyl chloride	3.75	3.73	3.74	99.5	99.7	70.0-130			0.268	25
Vinyl Bromide	3.75	3.87	3.78	103	101	70.0-130			2.35	25
Vinyl acetate	3.75	3.56	3.78	94.9	101	70.0-130			5.99	25
Xylenes, Total	11.3	11.2	11.3	99.1	100	70.0-130			0.889	25
m&p-Xylene	7.50	7.46	7.50	99.5	100	70.0-130			0.535	25
o-Xylene	3.75	3.75	3.80	100	101	70.0-130			1.32	25
(S) 1,4-Bromofluorobenzene				101	101	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

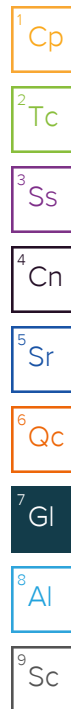
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

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



ACCREDITATIONS & LOCATIONS

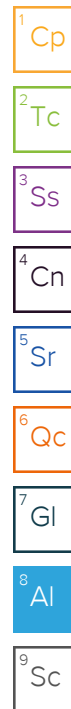
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

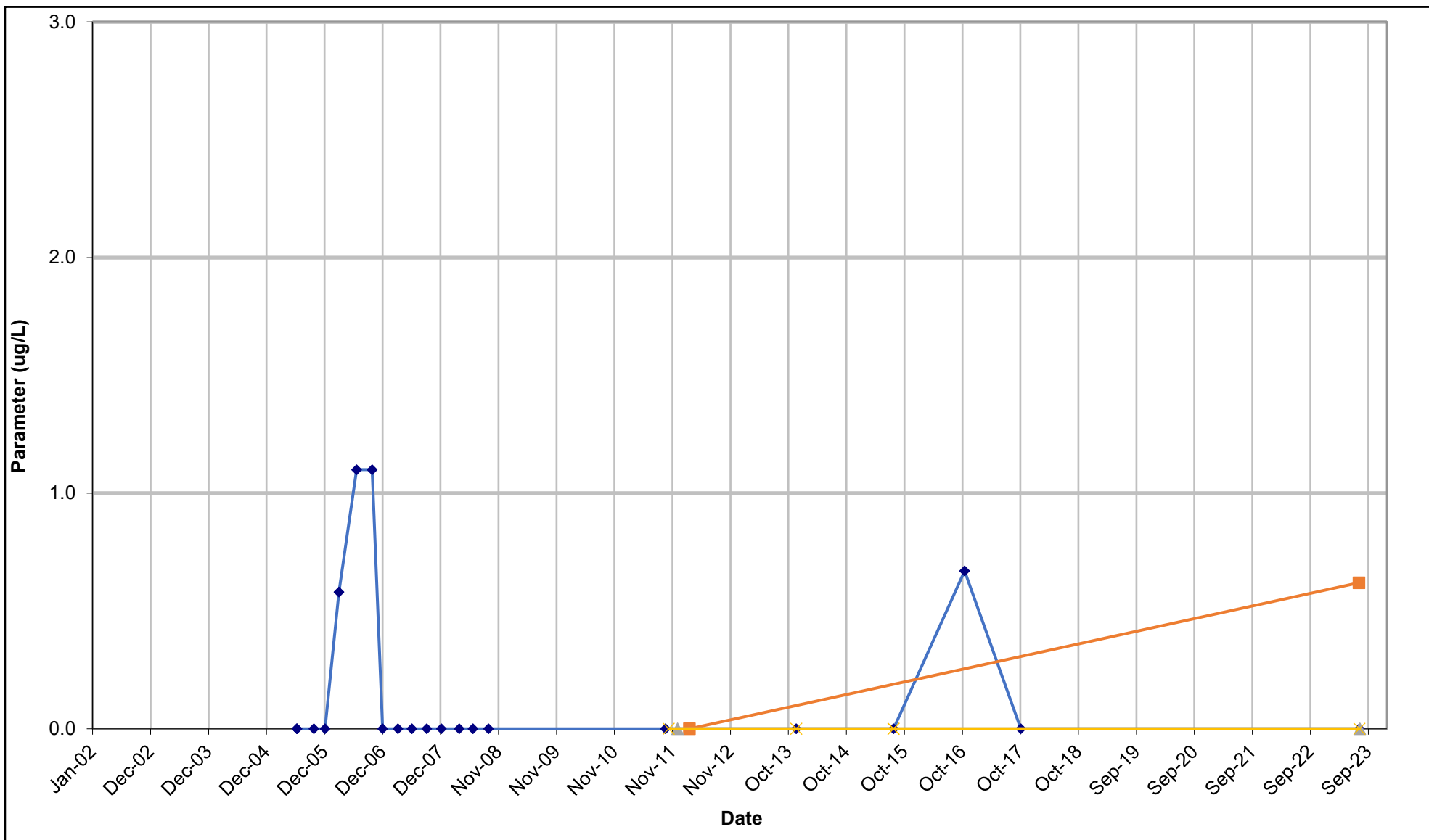
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



[illegible]

Appendix F

Trend Analysis Graphs



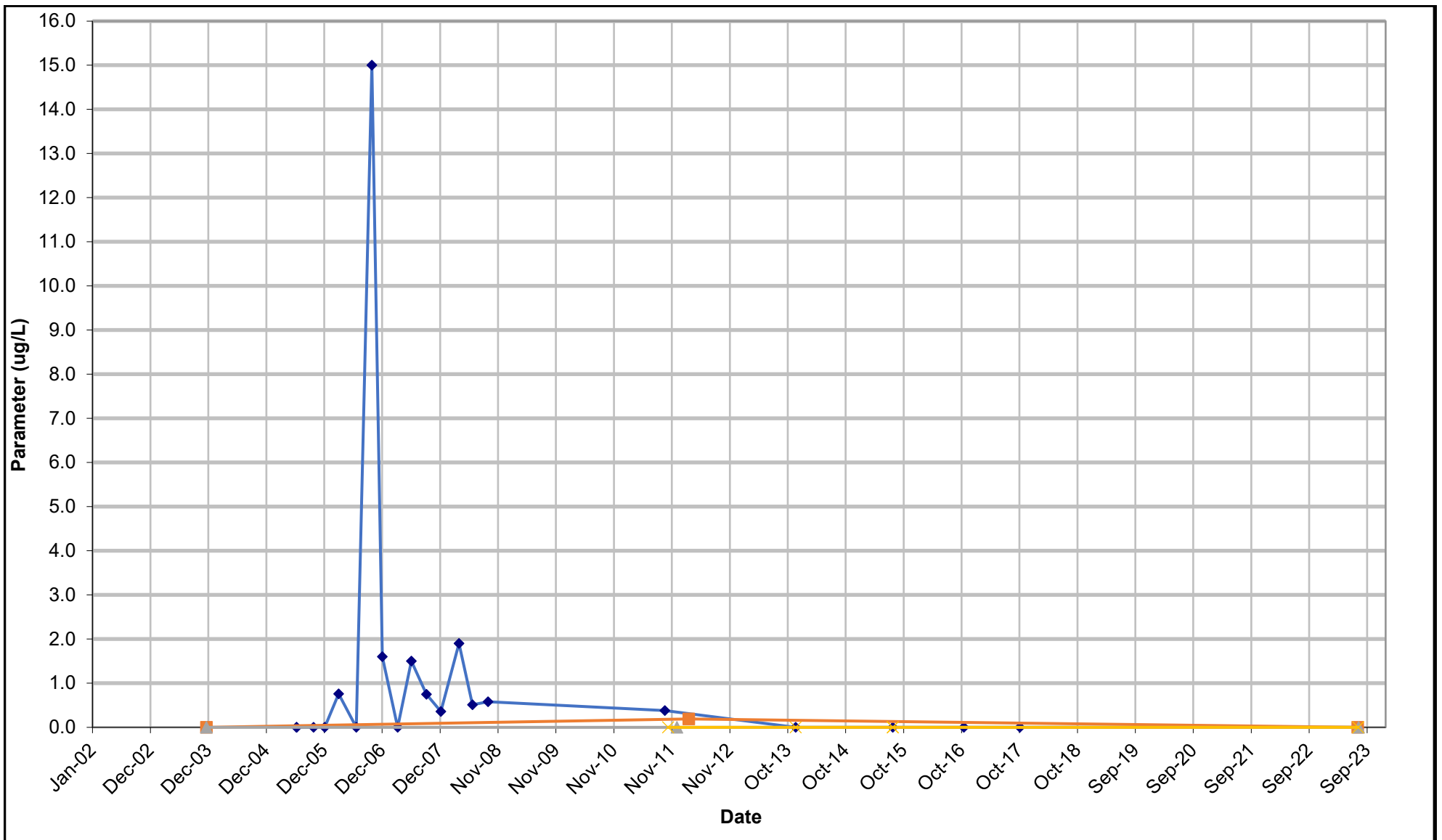
GS-7

MW-1U-93

MW-6U-93

MWOS-05

CONCENTRATION TRENDS FOR CIS-1,2-DICHLOROETHENE OFF-SITE WELLS



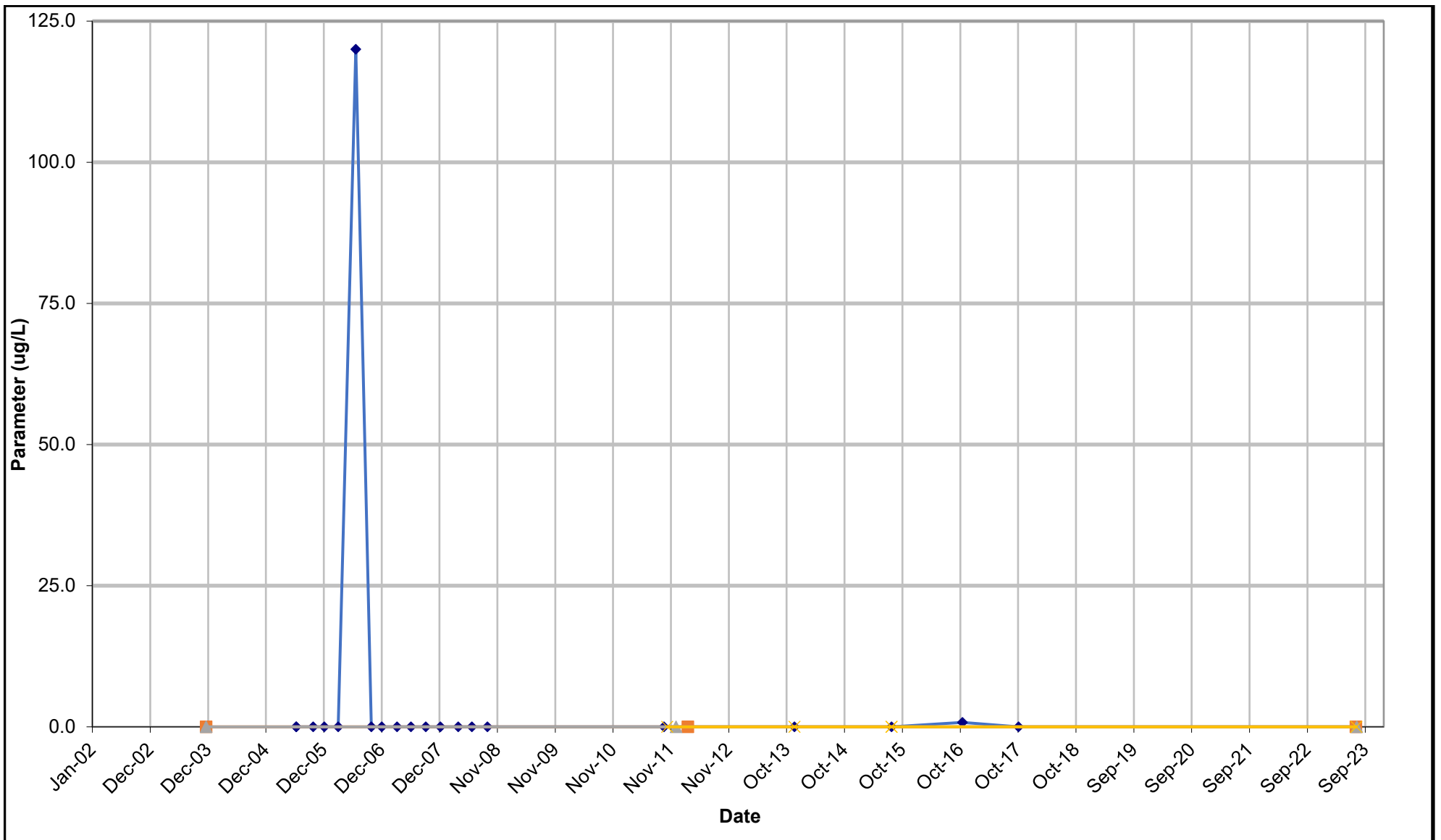
GS-7

MW-1U-93

MW-6U-93

MWOS-05

CONCENTRATION TRENDS FOR TRICHLOROETHENE OFF-SITE WELLS



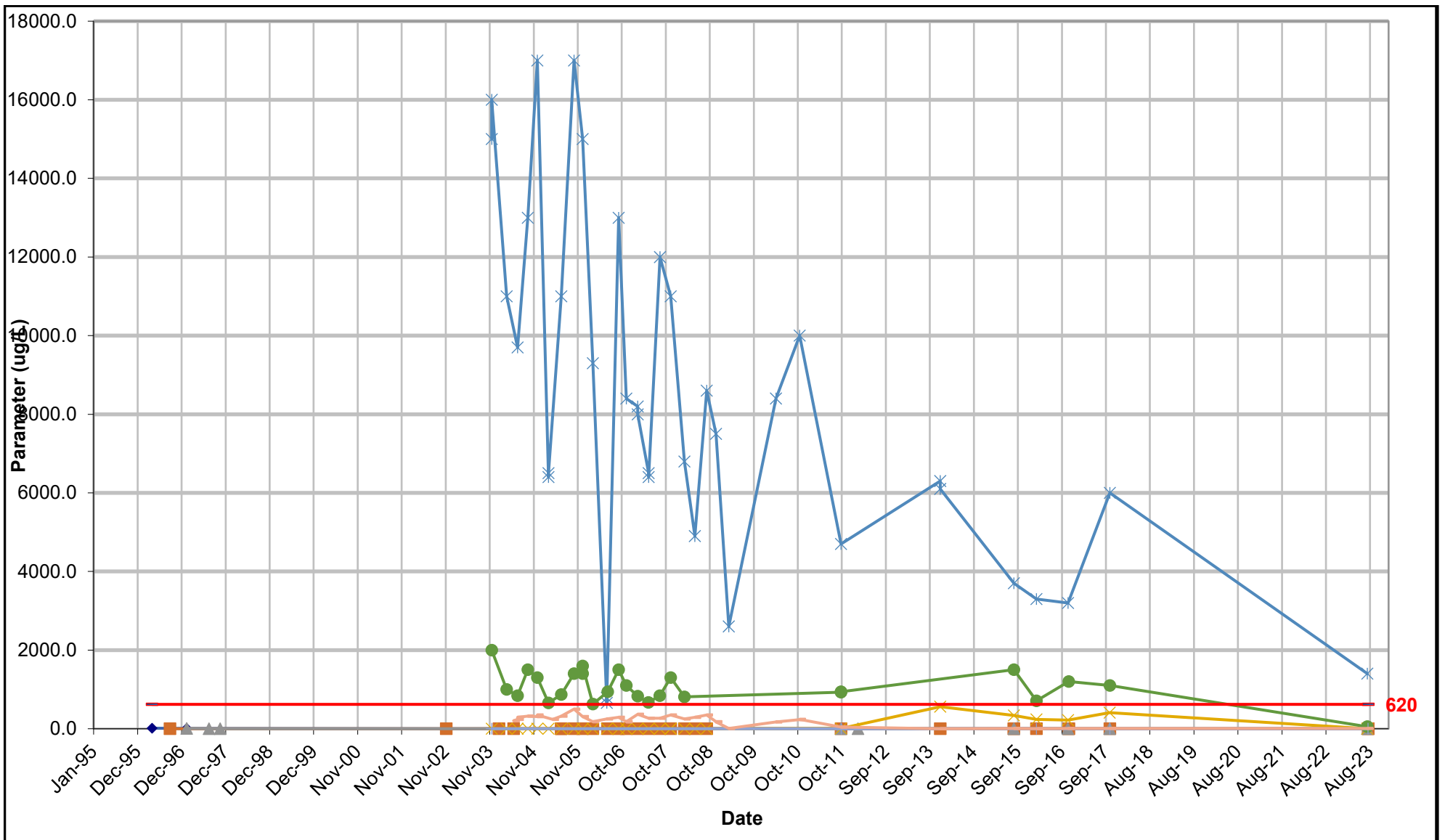
GS-7

MW-1U-93

MW-6U-93

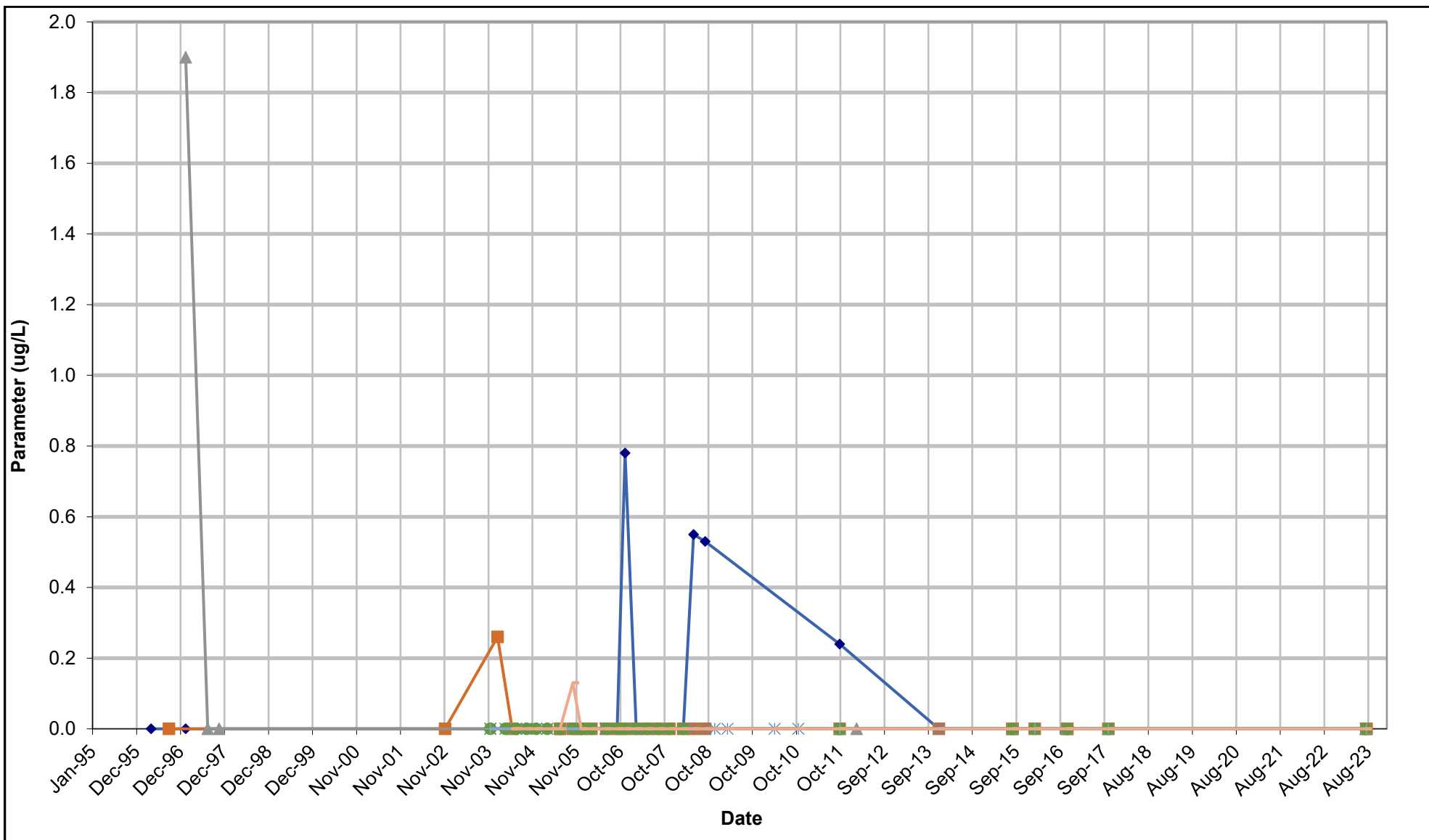
MWOS-05

CONCENTRATION TRENDS FOR VINYL CHLORIDE OFF-SITE WELLS



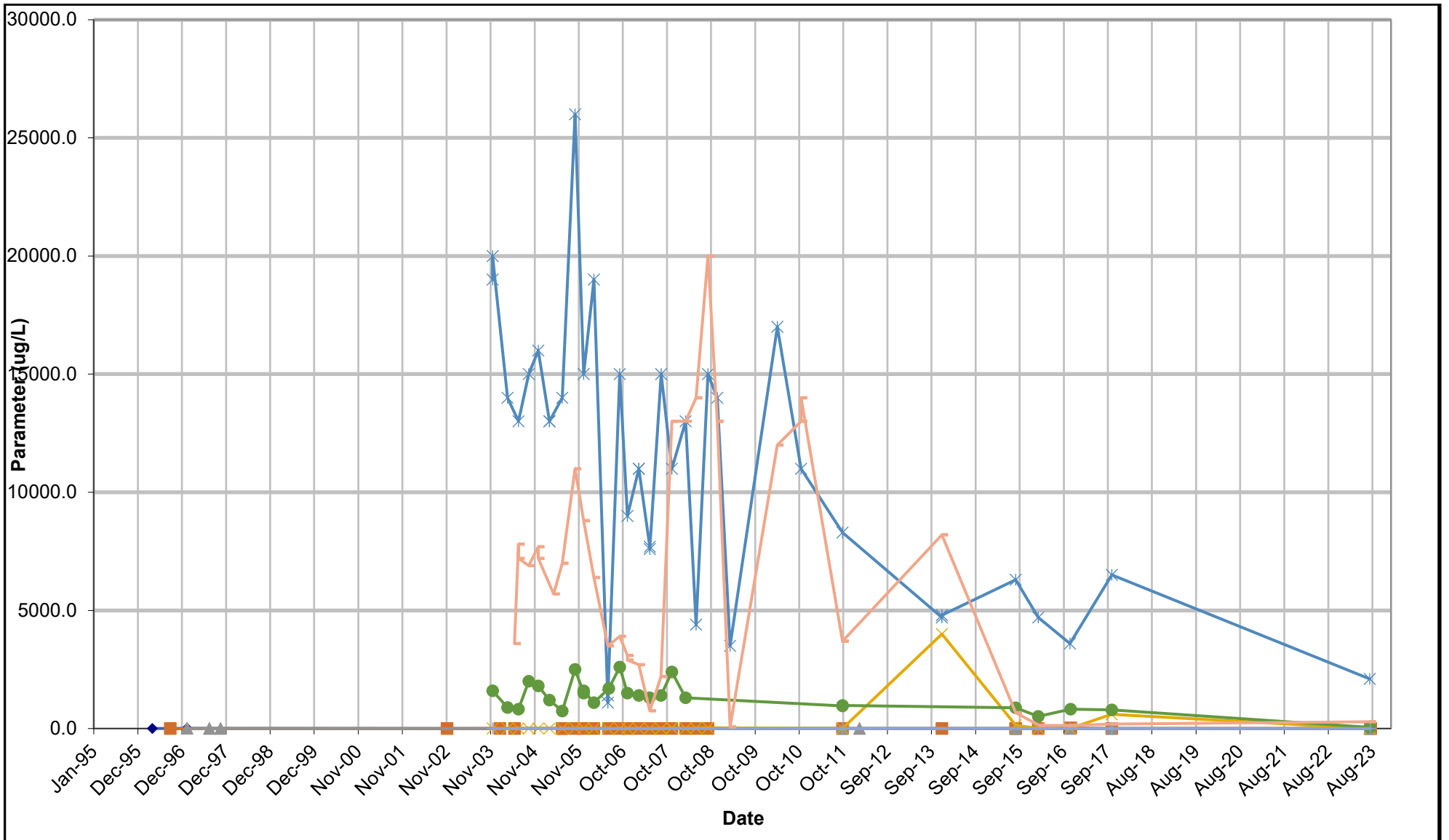
◆ MW-4
 ✕ MW-19-01
 ◆ MW-19-02
 ◆ MW-19-03
 ◆ MW-19-04
 ◆ MW-14
 ◆ MW-19-24
 ◆ MW-18
 ◆ GSI 620

CONCENTRATION TRENDS FOR CIS-1,2-DICHLOROETHENE ON-SITE WELLS



◆ MW-4
 ✕ MW-19-01
 + MW-19-04
 ■ MW-14
 ✕ MW-19-02
 — MW-19-24
 ▲ MW-18
 ● MW-19-03

CONCENTRATION TRENDS FOR TRICHLOROETHENE ON-SITE WELLS



- MW-4
- MW-14
- MW-18
- MW-19-01
- MW-19-02
- MW-19-03
- MW-19-04
- MW-19-24

CONCENTRATION TRENDS FOR VINYL CHLORIDE ON-SITE WELLS

Appendix G

**Sub Slab Depressurization O&M Inspection
Forms (2022 and 2024)**

Table 1
RACER WILLOW RUN CVO
Haulaway Building SSDS Inspection Results
December 8, 2022
May 21, 2024

Subslab Depressurization System Inspection		Pressure (WC)						
Subslab Monitoring Point Reading Location	Pressure (WC) May 21, 2024	2024 Notes	Pressure (WC) December 8, 2022	2022 Notes	Pressure (WC) 2021	2021 Notes	4/6/2018	2018 Notes
Compliance Point 1	-0.570	No rubber cap	-0.371		-0.344		stuck	stuck
Compliance Point 2	-0.032		-0.004		-0.003		-0.025	-0.013
Compliance Point 3	-2.406		-1.97		-1.791		-0.235	-0.065
Compliance Point 4	-1.874	No rubber cap	covered / boxes		-1.436		covered	covered
Compliance Point 5	-0.321	No rubber cap	-0.194		covered / equipment		-0.056	-0.042
Compliance Point 6	-2.219		-1.977		-1.781		-0.599	-0.348
Compliance Point 7	-0.126		-0.118		-0.114		-0.118	-0.12
GP19-05S	-1.644		covered boxes / machine		-1.277		-0.516	-0.542
GP19-06S	-1.987	No rubber cap	-1.672		-1.62		-0.471	
GP19-07S	-1.715	steel cap needs to be replaced, no rubber ca	-1.289		-1.91		covered	
GP19-08S	-0.152	No rubber cap	-0.13		-0.143		-0.043	
GP19-09S	NA	under racks	covered / boxes		covered / equipment		covered	
GP19-10S	-0.262	No rubber cap	-0.187		-0.173		-0.039	
GP19-11S	-0.108	-	covered / boxes / table		-0.088		-0.085	
GP19-12S	NA	covered/racks	covered / equipment / racks		CNL		CNL	
GP19-16S	-0.006	unsure of location (too far south)	-0.036		0		0	
GP19-17S	NA	covered/racks	covered / racks		covered / large rocks		-0.058	-0.016
GP19-18S	NA	covered/racks	covered / racks		covered / large rocks		-0.05	-0.019
Suction Point Readings Locations								
1	-2.255 / 2.258		-2.143	-2.172	-2.043	-2.097	-1.583	-1.586
2	-2.238		blocked / equipment		-2.228		-1.823	
3	-2.262 / -2.296		-2.127	-2.125	-2.074	-2.086	-1.571	-1.566
4	-8.146		-7.916		-7.902		-5.445	
5	-8.131 / NA	West port- ball valve damaged-NA reading	-7.93	-7.874	-7.825		-5.33	-5.332
6	-8.118		-7.832		-7.767		-5.291	
7	-7.711		-7.846		-7.8		-5.29	
8	NA	No port	no port		no port on PVC		no port	
9	-2.195		-2.137		-2.115		-1.555	
10	-2.296		blocked / equipment		-2.086		-1.595	
Blower 1: Inside Port	-2.621		-2.547		-2.577			
Blower 1: Outside Port	NA	Bad port	NA-BAD PORT		-2.571			
Blower 2: Inside Port	-8.617		-8.362		-8.288	blue handle	-5.979	
Blower 2: Outside Port	NA	Bad port	NA-BAD PORT		-8.34	blue handle		
NOTES: (1) Suction points with 2 readings are columns with 2 suctions points on them (2) Monitoring Results from 2014 are omitted for ease of review.								



ghd.com

→ The Power of Commitment